



**STL**

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## **ANALYTICAL REPORT**

REVISED

PROJECT NO. 019023-84

WAUKEGAN MFG GAS & COKE

Lot #: A4L100189

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.

Amy L. McCormick  
Project Manager

January 12, 2005

# CASE NARRATIVE

A4L100189

The following report contains the analytical results for nine solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Mfg. Gas & Coke Site, project number 019023-84. The samples were received December 10, 2004, according to documented sample acceptance procedures.

Results for sample S-120904-PP-004, listed on the chain-of-custody, were not reported as instructed by Dave Hendren on January 10, 2005.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on December 28, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.8°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-120904-PP-003 due to high analyte concentrations.

Sample(s) S-120904-PP-105 had elevated reporting limits due to matrix interference.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

*\* for analyses run on TJA Trace ICP only*

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

**QUALITY CONTROL ELEMENTS OF SW-846 METHODS**  
**(Continued)**

**MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

**SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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**STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (# E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

*Revision 10, 10/12/04  
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## EXECUTIVE SUMMARY - Detection Highlights

A4L100189

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-120904-PP-001 12/09/04 11:00 001</b>				
o-Cresol	0.36	0.25	mg/L	SW846 8270C
m-Cresol & p-Cresol	0.98	0.50	mg/L	SW846 8270C
<b>S-120904-PP-002 12/09/04 11:25 002</b>				
Arsenic	41.2	1.3	mg/kg	SW846 6010B
Benzo (b) fluoranthene	8000	4100	ug/kg	SW846 8270C
Benzo (a) pyrene	5200	4100	ug/kg	SW846 8270C
Naphthalene	5900	4100	ug/kg	SW846 8270C
Benzo (a) anthracene	7900	4100	ug/kg	SW846 8270C
Percent Solids	79.7	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-101 12/09/04 13:25 003</b>				
Arsenic	6.2	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	10000	4000	ug/kg	SW846 8270C
Benzo (a) pyrene	6500	4000	ug/kg	SW846 8270C
Benzo (a) anthracene	8900	4000	ug/kg	SW846 8270C
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-102 12/09/04 13:30 004</b>				
Arsenic	20.4	1.2	mg/kg	SW846 6010B
Naphthalene	420	400	ug/kg	SW846 8270C
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-103 12/09/04 13:35 005</b>				
Arsenic	16.0	1.3	mg/kg	SW846 6010B
Benzo (b) fluoranthene	1400	830	ug/kg	SW846 8270C
Benzo (a) pyrene	1000	830	ug/kg	SW846 8270C
4-Methylphenol	1600	830	ug/kg	SW846 8270C
Naphthalene	1400	830	ug/kg	SW846 8270C
Benzo (a) anthracene	1900	830	ug/kg	SW846 8270C
Percent Solids	79.1	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-104 12/09/04 13:38 006</b>				
Arsenic	328	1.3	mg/kg	SW846 6010B
Benzo (b) fluoranthene	1000	880	ug/kg	SW846 8270C
4-Methylphenol	2800	880	ug/kg	SW846 8270C
Naphthalene	2700	880	ug/kg	SW846 8270C
Benzo (a) anthracene	930	880	ug/kg	SW846 8270C

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A4L100189

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-120904-PP-104 12/09/04 13:38 006</b>				
Percent Solids	75.2	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-105 12/09/04 13:40 007</b>				
Arsenic	12.4	1.3	mg/kg	SW846 6010B
Benzo (b) fluoranthene	1100	860	ug/kg	SW846 8270C
Benzo (a) anthracene	890	860	ug/kg	SW846 8270C
Percent Solids	77.2	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-106 12/09/04 13:45 008</b>				
Arsenic	5.1	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	2200	1000	ug/kg	SW846 8270C
Benzo (a) pyrene	2300	1000	ug/kg	SW846 8270C
Benzo (a) anthracene	1500	1000	ug/kg	SW846 8270C
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD
<b>S-120904-PP-003 12/09/04 11:10 009</b>				
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A4L100189

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A4L100189

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G0P99	001	S-120904-PP-001	12/09/04	11:00
G0QAJ	002	S-120904-PP-002	12/09/04	11:25
G0QAV	003	S-120904-PP-101	12/09/04	13:25
G0QA2	004	S-120904-PP-102	12/09/04	13:30
G0QA4	005	S-120904-PP-103	12/09/04	13:35
G0QA6	006	S-120904-PP-104	12/09/04	13:38
G0QA7	007	S-120904-PP-105	12/09/04	13:40
G0QCL	008	S-120904-PP-106	12/09/04	13:45
G0QCM	009	S-120904-PP-003	12/09/04	11:10

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-001

TCLP GC/MS Volatiles

Lot-Sample #...: A4L100189-001    Work Order #...: G0P991AA    Matrix.....: SO  
 Date Sampled...: 12/09/04 11:00    Date Received...: 12/10/04  
 Leach Date.....: 12/15/04    Prep Date.....: 12/20/04    Analysis Date...: 12/20/04  
 Leach Batch #...: P435101    Prep Batch #...: 4355305  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	114	(86 - 125)
1,2-Dichloroethane-d4	112	(80 - 122)
Toluene-d8	107	(93 - 122)
4-Bromofluorobenzene	105	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-001

TCLP GC/MS Semivolatiles

Lot-Sample #...: A4L100189-001    Work Order #...: G0P991AD    Matrix.....: SO  
 Date Sampled...: 12/09/04 11:00    Date Received...: 12/10/04  
 Leach Date.....: 12/16/04    Prep Date.....: 12/18/04    Analysis Date...: 12/22/04  
 Leach Batch #...: P435207    Prep Batch #...: 4353018  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
<b>o-Cresol</b>	<b>0.36</b>	<b>0.25</b>	<b>mg/L</b>
<b>m-Cresol &amp; p-Cresol</b>	<b>0.98</b>	<b>0.50</b>	<b>mg/L</b>
1,4-Dichlorobenzene	ND	0.25	mg/L
2,4-Dinitrotoluene	ND	0.25	mg/L
Hexachlorobenzene	ND	0.25	mg/L
Hexachlorobutadiene	ND	0.25	mg/L
Hexachloroethane	ND	0.25	mg/L
Nitrobenzene	ND	0.25	mg/L
Pentachlorophenol	ND	0.50	mg/L
Pyridine	ND	0.50	mg/L
2,4,5-Trichloro-phenol	ND	1.2	mg/L
2,4,6-Trichloro-phenol	ND	0.25	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	59 DIL	(32 - 112)
2-Fluorobiphenyl	59 DIL	(30 - 110)
Terphenyl-d14	77 DIL	(10 - 144)
Phenol-d5	56 DIL	(10 - 113)
2-Fluorophenol	48 DIL	(13 - 110)
2,4,6-Tribromophenol	67 DIL	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-001

TCLP Metals

Lot-Sample #...: A4L100189-001

Matrix.....: SO

Date Sampled...: 12/09/04 11:00 Date Received...: 12/10/04

Leach Date.....: 12/16/04 Leach Batch #...: P435207

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355012						
Arsenic	ND	0.50	mg/L	SW846 6010B	12/20/04	G0P991AE
		Dilution Factor: 1				

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

TCLP GC/MS Volatiles

**Lot-Sample #...**: A4L100189-002    **Work Order #...**: G0QAJ1AD    **Matrix.....**: SO  
**Date Sampled...**: 12/09/04 11:25    **Date Received...**: 12/10/04  
**Leach Date.....**: 12/15/04    **Prep Date.....**: 12/20/04    **Analysis Date...**: 12/20/04  
**Leach Batch #...**: P435101    **Prep Batch #...**: 4355305  
**Dilution Factor:** 1  
**% Moisture.....**: 20    **Method.....**: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	114	(86 - 125)
1,2-Dichloroethane-d4	108	(80 - 122)
Toluene-d8	109	(93 - 122)
4-Bromofluorobenzene	103	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

GC/MS Semivolatiles

Lot-Sample #...: A4L100189-002    Work Order #...: G0QAJ1AH    Matrix.....: SO  
 Date Sampled...: 12/09/04 11:25    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 10  
 % Moisture.....: 20    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo (b) fluoranthene	8000	4100	ug/kg
Benzo (a) pyrene	5200	4100	ug/kg
Dibenz (a, h) anthracene	ND	4100	ug/kg
Dibenzofuran	ND	4100	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	4100	ug/kg
4-Methylphenol	ND	4100	ug/kg
Naphthalene	5900	4100	ug/kg
Benzo (a) anthracene	7900	4100	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	64 DIL	(42 - 110)
2-Fluorobiphenyl	55 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	52 DIL	(25 - 115)
2-Fluorophenol	34 DIL	(11 - 116)
2,4,6-Tribromophenol	45 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

TCLP GC/MS Semivolatiles

Lot-Sample #...: A4L100189-002    Work Order #...: G0QAJ1AF    Matrix.....: SO  
 Date Sampled...: 12/09/04 11:25    Date Received...: 12/10/04  
 Leach Date.....: 12/16/04    Prep Date.....: 12/18/04    Analysis Date...: 12/21/04  
 Leach Batch #...: P435207    Prep Batch #...: 4353018  
 Dilution Factor: 1  
 % Moisture.....: 20    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	(32 - 112)
2-Fluorobiphenyl	64	(30 - 110)
Terphenyl-d14	85	(10 - 144)
Phenol-d5	49	(10 - 113)
2-Fluorophenol	15	(13 - 110)
2,4,6-Tribromophenol	53	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

TOTAL Metals

Lot-Sample #...: A4L100189-002

Matrix.....: SO

Date Sampled...: 12/09/04 11:25 Date Received...: 12/10/04

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	41.2	1.3	mg/kg	SW846 6010B	12/16-12/20/04	G0QAJLAC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

TCLP Metals

Lot-Sample #...: A4L100189-002

Matrix.....: SO

Date Sampled...: 12/09/04 11:25 Date Received...: 12/10/04

Leach Date.....: 12/16/04 Leach Batch #...: P435207

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #...: 4355012</b>						
Barium	ND	10.0	mg/L	SW846 6010B	12/20/04	G0QAJ1AK
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	12/20/04	G0QAJ1AL
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	12/20/04	G0QAJ1AM
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	12/20/04	G0QAJ1AN
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	12/20/04	G0QAJ1AP
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	12/20/04	G0QAJ1AQ
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	12/20/04	G0QAJ1AJ
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	12/20-12/21/04	G0QAJ1AR
		Dilution Factor: 1				

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-002

General Chemistry

Lot-Sample #...: A4L100189-002    Work Order #...: G0QAJ    Matrix.....: SO  
Date Sampled...: 12/09/04 11:25    Date Received...: 12/10/04  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.7	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-101

GC/MS Semivolatiles

Lot-Sample #...: A4L100189-003    Work Order #...: G0QAV1AD    Matrix.....: SO  
 Date Sampled...: 12/09/04 13:25    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 10  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo (b) fluoranthene	10000	4000	ug/kg
Benzo (a) pyrene	6500	4000	ug/kg
Dibenz (a, h) anthracene	ND	4000	ug/kg
Dibenzofuran	ND	4000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	4000	ug/kg
4-Methylphenol	ND	4000	ug/kg
Naphthalene	ND	4000	ug/kg
Benzo (a) anthracene	8900	4000	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	80 DIL	(42 - 110)
2-Fluorobiphenyl	76 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	56 DIL	(25 - 115)
2-Fluorophenol	42 DIL	(11 - 116)
2,4,6-Tribromophenol	53 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-101

TOTAL Metals

Lot-Sample #...: A4L100189-003

Matrix.....: SO

Date Sampled...: 12/09/04 13:25 Date Received...: 12/10/04

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	6.2	1.2	mg/kg	SW846 6010B	12/16-12/20/04	G0QAVLAC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-101

General Chemistry

Lot-Sample #....: A4L100189-003    Work Order #....: G0QAV    Matrix.....: SO  
Date Sampled...: 12/09/04 13:25    Date Received..: 12/10/04  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-102

GC/MS Semivolatiles

Lot-Sample #....: A4L100189-004    Work Order #....: G0QA21AD    Matrix.....: SO  
 Date Sampled....: 12/09/04 13:30    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #....: 4346011  
 Dilution Factor: 1  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	400	ug/kg
Benzo(a) pyrene	ND	400	ug/kg
Dibenz(a,h) anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd) pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
<b>Naphthalene</b>	<b>420</b>	<b>400</b>	<b>ug/kg</b>
Benzo(a) anthracene	ND	400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	86	(42 - 110)
2-Fluorobiphenyl	78	(43 - 110)
Terphenyl-d14	92	(37 - 137)
Phenol-d5	80	(25 - 115)
2-Fluorophenol	61	(11 - 116)
2,4,6-Tribromophenol	59	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-102

TOTAL Metals

Lot-Sample #...: A4L100189-004

Matrix.....: SO

Date Sampled...: 12/09/04 13:30 Date Received...: 12/10/04

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	20.4	1.2	mg/kg	SW846 6010B	12/16-12/20/04	G0QA21AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-102

General Chemistry

Lot-Sample #...: A4L100189-004    Work Order #...: G0QA2    Matrix.....: SO  
Date Sampled...: 12/09/04 13:30    Date Received...: 12/10/04  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-103

GC/MS Semivolatiles

Lot-Sample #....: A4L100189-005    Work Order #....: G0QA41AD    Matrix.....: SO  
 Date Sampled....: 12/09/04 13:35    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #....: 4346011  
 Dilution Factor: 2  
 % Moisture.....: 21    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	1400	830	ug/kg
Benzo (a) pyrene	1000	830	ug/kg
Dibenz (a, h) anthracene	ND	830	ug/kg
Dibenzofuran	ND	830	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	830	ug/kg
4-Methylphenol	1600	830	ug/kg
Naphthalene	1400	830	ug/kg
Benzo (a) anthracene	1900	830	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	92 DIL	(42 - 110)
2-Fluorobiphenyl	84 DIL	(43 - 110)
Terphenyl-d14	97 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	39 DIL	(11 - 116)
2,4,6-Tribromophenol	26 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-103

TOTAL Metals

Lot-Sample #...: A4L100189-005

Matrix.....: SO

Date Sampled...: 12/09/04 13:35 Date Received...: 12/10/04

% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	16.0	1.3	mg/kg	SW846 6010B	12/16-12/20/04	G0QA41AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-103

General Chemistry

Lot-Sample #....: A4L100189-005    Work Order #....: G0QA4    Matrix.....: SO  
Date Sampled....: 12/09/04 13:35    Date Received...: 12/10/04  
% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.1	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-104

GC/MS Semivolatiles

Lot-Sample #...: A4L100189-006    Work Order #...: G0QA61AD    Matrix.....: SO  
 Date Sampled...: 12/09/04 13:38    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 2  
 % Moisture.....: 25    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo (b) fluoranthene</b>	<b>1000</b>	<b>880</b>	<b>ug/kg</b>
Benzo (a) pyrene	ND	880	ug/kg
Dibenz (a, h) anthracene	ND	880	ug/kg
Dibenzofuran	ND	880	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	880	ug/kg
<b>4-Methylphenol</b>	<b>2800</b>	<b>880</b>	<b>ug/kg</b>
<b>Naphthalene</b>	<b>2700</b>	<b>880</b>	<b>ug/kg</b>
<b>Benzo (a) anthracene</b>	<b>930</b>	<b>880</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	81 DIL	(42 - 110)
2-Fluorobiphenyl	80 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	48 DIL	(11 - 116)
2,4,6-Tribromophenol	47 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-104

TOTAL Metals

Lot-Sample #...: A4L100189-006

Matrix.....: SO

Date Sampled...: 12/09/04 13:38 Date Received...: 12/10/04

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	328	1.3	mg/kg	SW846 6010B	12/16-12/20/04	G0QA61AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-104

General Chemistry

Lot-Sample #...: A4L100189-006    Work Order #...: G0QA6    Matrix.....: SO  
Date Sampled...: 12/09/04 13:38    Date Received...: 12/10/04  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	75.2	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-105

GC/MS Semivolatiles

Lot-Sample #...: A4L100189-007    Work Order #...: G0QA71AD    Matrix.....: SO  
 Date Sampled...: 12/09/04 13:40    Date Received...: 12/10/04  
 Prep Date.....: 12/11/04    Analysis Date...: 12/20/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 2  
 % Moisture.....: 23    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
<b>Benzo (b) fluoranthene</b>	<b>1100</b>	<b>860</b>	<b>ug/kg</b>
Benzo (a) pyrene	ND	860	ug/kg
Dibenz (a, h) anthracene	ND	860	ug/kg
Dibenzofuran	ND	860	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	860	ug/kg
4-Methylphenol	ND	860	ug/kg
Naphthalene	ND	860	ug/kg
<b>Benzo (a) anthracene</b>	<b>890</b>	<b>860</b>	<b>ug/kg</b>

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	70 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	36 DIL	(11 - 116)
2,4,6-Tribromophenol	36 DIL	(35 - 116)

**NOTE (S) :**

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-105

TOTAL Metals

Lot-Sample #...: A4L100189-007

Matrix.....: SO

Date Sampled...: 12/09/04 13:40 Date Received...: 12/10/04

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	12.4	1.3	mg/kg	SW846 6010B	12/16-12/20/04	G0QA71AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-105

General Chemistry

Lot-Sample #...: A4L100189-007    Work Order #...: G0QA7    Matrix.....: SO  
Date Sampled...: 12/09/04 13:40    Date Received...: 12/10/04  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.2	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-106

GC/MS Semivolatiles

Lot-Sample #...: A4L100189-008 Work Order #...: G0QCL1AD Matrix.....: SO  
 Date Sampled...: 12/09/04 13:45 Date Received...: 12/10/04  
 Prep Date.....: 12/11/04 Analysis Date...: 12/20/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 2.5  
 % Moisture.....: 18 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	2200	1000	ug/kg
Benzo (a) pyrene	2300	1000	ug/kg
Dibenz (a, h) anthracene	ND	1000	ug/kg
Dibenzofuran	ND	1000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1000	ug/kg
4-Methylphenol	ND	1000	ug/kg
Naphthalene	ND	1000	ug/kg
Benzo (a) anthracene	1500	1000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	69 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	66 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-106

TOTAL Metals

Lot-Sample #...: A4L100189-008

Matrix.....: SO

Date Sampled...: 12/09/04 13:45 Date Received...: 12/10/04

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4350331						
Arsenic	5.1	1.2	mg/kg	SW846 6010B	12/16-12/20/04	G0QCL1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-106

General Chemistry

Lot-Sample #...: A4L100189-008    Work Order #...: G0QCL    Matrix.....: SO  
Date Sampled...: 12/09/04 13:45    Date Received..: 12/10/04  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD	12/16/04	4351050

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-003

TCLP GC/MS Volatiles

**Lot-Sample #...**: A4L100189-009    **Work Order #...**: G0QCM1AA    **Matrix.....**: SO  
**Date Sampled...**: 12/09/04 11:10    **Date Received..**: 12/10/04  
**Leach Date.....**: 12/15/04    **Prep Date.....**: 12/20/04    **Analysis Date..**: 12/20/04  
**Leach Batch #...**: P435101    **Prep Batch #...**: 4355305  
**Dilution Factor**: 1    **Method.....**: SW846 8260B  
**% Moisture.....**: 17

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	116	(86 - 125)
1,2-Dichloroethane-d4	111	(80 - 122)
Toluene-d8	109	(93 - 122)
4-Bromofluorobenzene	108	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-003

TCLP GC/MS Semivolatiles

Lot-Sample #...: A4L100189-009    Work Order #...: G0QCM1AD    Matrix.....: SO  
 Date Sampled...: 12/09/04 11:10    Date Received...: 12/10/04  
 Leach Date.....: 12/16/04    Prep Date.....: 12/18/04    Analysis Date...: 12/22/04  
 Leach Batch #...: P435207    Prep Batch #...: 4353018  
 Dilution Factor: 1  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	79	(10 - 144)
Phenol-d5	65	(10 - 113)
2-Fluorophenol	39	(13 - 110)
2,4,6-Tribromophenol	62	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-003

TCLP Metals

Lot-Sample #...: A4L100189-009

Matrix.....: SO

Date Sampled...: 12/09/04 11:10 Date Received...: 12/10/04

Leach Date.....: 12/16/04 Leach Batch #...: P435207

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355012						
Arsenic	ND	0.50	mg/L	SW846 6010B	12/20/04	GOQCM1AH
		Dilution Factor: 1				

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-120904-PP-003

General Chemistry

Lot-Sample #...: A4L100189-009    Work Order #...: G0QCM    Matrix.....: SO  
Date Sampled...: 12/09/04 11:10    Date Received...: 12/10/04  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD	12/29-12/30/04	4364270

Dilution Factor: 1

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A4L100189  
 MB Lot-Sample #: A4L200000-305  
 Leach Date.....: 12/15/04  
 Leach Batch #...: P435101  
 Dilution Factor: 1

Work Order #...: G1HPE1AD  
 Prep Date.....: 12/18/04  
 Prep Batch #...: 4355305

Matrix.....: SOLID  
 Analysis Date...: 12/18/04

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	113	(86 - 125)
1,2-Dichloroethane-d4	108	(80 - 122)
Toluene-d8	110	(93 - 122)
4-Bromofluorobenzene	105	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A4L100189      Work Order #...: G0T051AA      Matrix.....: SOLID  
 MB Lot-Sample #: A4L110000-011  
 Analysis Date...: 12/14/04      Prep Date.....: 12/11/04  
 Dilution Factor: 1              Prep Batch #...: 4346011

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzo(a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h) anthracene	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	68	(42 - 110)
2-Fluorobiphenyl	67	(43 - 110)
Terphenyl-d14	83	(37 - 137)
Phenol-d5	63	(25 - 115)
2-Fluorophenol	64	(11 - 116)
2,4,6-Tribromophenol	42	(35 - 116)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A4L100189  
 MB Lot-Sample #: A4L180000-018  
 Leach Date.....: 12/16/04  
 Leach Batch #...: P435207  
 Dilution Factor: 1

Work Order #...: G1FD11AA  
 Prep Date.....: 12/18/04  
 Prep Batch #...: 4353018

Matrix.....: SOLID  
 Analysis Date...: 12/21/04

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	55	(30 - 110)
Terphenyl-d14	86	(10 - 144)
Phenol-d5	67	(10 - 113)
2-Fluorophenol	62	(13 - 110)
2,4,6-Tribromophenol	64	(21 - 122)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #....: A4L100189

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A4L150000-331		<b>Prep Batch #....:</b> 4350331				
Arsenic	ND	1.0	mg/kg	SW846 6010B	12/16-12/20/04	G04291AA
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #....: A4L100189

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A4L170000-287 <b>Prep Batch #....:</b> 4355012 <b>Leach Date.....:</b> 12/16/04 <b>Leach Batch #...:</b> P435207						
Barium	ND	10.0	mg/L	SW846 6010B	12/20/04	G1CNP1AC
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	12/20/04	G1CNP1AD
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	12/20/04	G1CNP1AE
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	12/20/04	G1CNP1AF
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	12/20/04	G1CNP1AG
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	12/20/04	G1CNP1AH
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	12/20/04	G1CNP1AA
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	12/20-12/21/04	G1CNP1AJ
		Dilution Factor: 1				

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A4L100189

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A4L200000-012 <b>Prep Batch #...:</b> 4355012						
Barium	ND	10.0	mg/L	SW846 6010B	12/20/04	G1GXV1AC
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	12/20/04	G1GXV1AD
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	12/20/04	G1GXV1AE
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	12/20/04	G1GXV1AF
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	12/20/04	G1GXV1AG
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	12/20/04	G1GXV1AH
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	12/20/04	G1GXV1AA
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	12/20-12/21/04	G1GXV1AJ
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A4L100189

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	ND	Work Order #: G07681AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A4L160000-050 12/16/04	4351050
		Dilution Factor: 1				
Percent Solids	ND	Work Order #: G1XQP1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A4L290000-270 12/29-12/30/04	4364270
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4L100189      Work Order #...: G1HPE1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L200000-305      G1HPE1AC-LCSD  
 Prep Date.....: 12/18/04      Analysis Date...: 12/18/04  
 Prep Batch #...: 4355305  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	104	(76 - 118)			SW846 8260B
	101	(76 - 118)	2.8	(0-30)	SW846 8260B
Chlorobenzene	98	(76 - 113)			SW846 8260B
	97	(76 - 113)	0.83	(0-30)	SW846 8260B
1,1-Dichloroethylene	109	(67 - 128)			SW846 8260B
	105	(67 - 128)	4.1	(0-30)	SW846 8260B
Trichloroethylene	107	(76 - 119)			SW846 8260B
	105	(76 - 119)	2.0	(0-30)	SW846 8260B
Toluene	94	(72 - 117)			SW846 8260B
	93	(72 - 117)	1.7	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	113	(86 - 124)
	112	(86 - 124)
1,2-Dichloroethane d4	106	(80 - 122)
	104	(80 - 122)
Toluene-d8	106	(93 - 122)
	109	(93 - 122)
4-Bromofluorobenzene	108	(84 - 125)
	108	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L100189      Work Order #...: G0T051AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L110000-011  
 Prep Date.....: 12/11/04      Analysis Date...: 12/14/04  
 Prep Batch #...: 4346011  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	73	(45 - 110)	SW846 8270C
Acenaphthene	76	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	80	(48 - 111)	SW846 8270C
Pyrene	80	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl amine	82	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	88	(38 - 110)	SW846 8270C
Pentachlorophenol	62	(10 - 123)	SW846 8270C
Phenol	69	(35 - 110)	SW846 8270C
2-Chlorophenol	69	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	76	(43 - 110)	SW846 8270C
4-Nitrophenol	68	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	79	(42 - 110)
2-Fluorobiphenyl	79	(43 - 110)
Terphenyl-d14	90	(37 - 137)
Phenol-d5	75	(25 - 115)
2-Fluorophenol	73	(11 - 116)
2,4,6-Tribromophenol	71	(35 - 116)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L100189      Work Order #...: G1FD11AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L180000-018      G1FD11AD-LCSD  
 Prep Date.....: 12/18/04      Analysis Date...: 12/21/04  
 Prep Batch #...: 4353018  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
o-Cresol	54	(33 - 115)			SW846 8270C
	50	(33 - 115)	7.0	(0-31)	SW846 8270C
m-Cresol & p-Cresol	57	(46 - 109)			SW846 8270C
	56	(46 - 109)	2.4	(0-32)	SW846 8270C
1,4-Dichlorobenzene	54	(28 - 110)			SW846 8270C
	49	(28 - 110)	8.5	(0-36)	SW846 8270C
2,4-Dinitrotoluene	82	(47 - 131)			SW846 8270C
	83	(47 - 131)	1.2	(0-32)	SW846 8270C
Hexachlorobenzene	86	(57 - 128)			SW846 8270C
	84	(57 - 128)	1.6	(0-22)	SW846 8270C
Hexachlorobutadiene	48	(36 - 116)			SW846 8270C
	47	(36 - 116)	2.0	(0-32)	SW846 8270C
Hexachloroethane	44	(30 - 110)			SW846 8270C
	46	(30 - 110)	3.4	(0-33)	SW846 8270C
Nitrobenzene	73	(45 - 130)			SW846 8270C
	66	(45 - 130)	9.5	(0-50)	SW846 8270C
Pentachlorophenol	68	(10 - 140)			SW846 8270C
	59	(10 - 140)	14	(0-56)	SW846 8270C
Pyridine	61	(10 - 148)			SW846 8270C
	57	(10 - 148)	6.9	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	66	(41 - 125)			SW846 8270C
	67	(41 - 125)	0.81	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	64	(46 - 135)			SW846 8270C
	65	(46 - 135)	1.5	(0-27)	SW846 8270C
Cresols (total)	56	(46 - 109)			SW846 8270C
	54	(46 - 109)	3.9	(0-32)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	69	(32 - 112)
	63	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
	59	(30 - 110)
Terphenyl-d14	82	(10 - 144)
	79	(10 - 144)
Phenol-d5	58	(10 - 113)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: A4L100189

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A4L150000-331 Prep Batch #....: 4350331

Arsenic	88	(80 - 120)	SW846 6010B	12/16-12/20/04	G04291AC
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Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TCLP Metals**

**Client Lot #...: A4L100189**

**Matrix.....: SOLID**

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#: A4L200000-012 Prep Batch #...: 4355012</b>					
Barium	93	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AL
Cadmium	92	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AM
Chromium	94	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AN
Lead	91	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AP
Selenium	92	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AQ
Silver	102	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AR
Arsenic	91	(50 - 150)	SW846 6010B Dilution Factor: 1	12/20/04	G1GXV1AK
Mercury	110	(50 - 150)	SW846 7470A Dilution Factor: 1	12/20-12/21/04	G1GXV1AT

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #....: A4L100189      Work Order #....: G0QAJ1AT-MS      Matrix.....: SO  
 MS Lot-Sample #: A4L100189-002      G0QAJ1AU-MSD  
 Date Sampled...: 12/09/04 11:25      Date Received...: 12/10/04  
 Leach Date.....: 12/15/04      Prep Date.....: 12/20/04      Analysis Date...: 12/20/04  
 Leach Batch #...: P435101      Prep Batch #....: 4355305  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	101	(76 - 117)			SW846 8260B
	101	(76 - 117)	0.14	(0-30)	SW846 8260B
Chlorobenzene	97	(72 - 114)			SW846 8260B
	96	(72 - 114)	0.42	(0-30)	SW846 8260B
1,1-Dichloroethylene	105	(67 - 129)			SW846 8260B
	105	(67 - 129)	0.42	(0-30)	SW846 8260B
Trichloroethylene	104	(72 - 121)			SW846 8260B
	105	(72 - 121)	0.78	(0-30)	SW846 8260B
Toluene	90	(67 - 113)			SW846 8260B
	90	(67 - 113)	0.34	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	119	(86 - 125)
	117	(86 - 125)
1,2-Dichloroethane-d4	112	(80 - 122)
	109	(80 - 122)
Toluene-d8	109	(93 - 122)
	110	(93 - 122)
4-Bromofluorobenzene	112	(84 - 125)
	111	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #....: A4L100189      Work Order #....: G0QHA1D2-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A4L100205-005      G0QHA1D3-MSD  
 Date Sampled....: 12/09/04 07:55      Date Received...: 12/10/04  
 Prep Date.....: 12/11/04      Analysis Date...: 12/16/04  
 Prep Batch #....: 4346011  
 Dilution Factor: 1      % Moisture.....: 24

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	70	(16 - 121)			SW846 8270C
	63	(16 - 121)	10	(0-54)	SW846 8270C
Acenaphthene	69	(13 - 133)			SW846 8270C
	64	(13 - 133)	8.1	(0-44)	SW846 8270C
2,4-Dinitrotoluene	66	(10 - 171)			SW846 8270C
	55	(10 - 171)	18	(0-45)	SW846 8270C
Pyrene	75	(10 - 218)			SW846 8270C
	89	(10 - 218)	12	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	87	(12 - 128)			SW846 8270C
	80	(12 - 128)	8.4	(0-50)	SW846 8270C
1,4-Dichlorobenzene	79	(18 - 110)			SW846 8270C
	64	(18 - 110)	22	(0-59)	SW846 8270C
Pentachlorophenol	34	(10 - 144)			SW846 8270C
	29	(10 - 144)	13	(0-87)	SW846 8270C
Phenol	70	(10 - 148)			SW846 8270C
	66	(10 - 148)	6.2	(0-50)	SW846 8270C
2-Chlorophenol	69	(17 - 116)			SW846 8270C
	64	(17 - 116)	6.9	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	74	(17 - 128)			SW846 8270C
	63	(17 - 128)	16	(0-55)	SW846 8270C
4-Nitrophenol	67	(10 - 148)			SW846 8270C
	65	(10 - 148)	3.9	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	84	(42 - 110)
	77	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
	64	(43 - 110)
Terphenyl-d14	85	(37 - 137)
	79	(37 - 137)
Phenol-d5	77	(25 - 115)
	68	(25 - 115)
2-Fluorophenol	72	(11 - 116)
	68	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L100189      Work Order #...: G0QHA1D2-MS      Matrix.....: SOLID  
MS Lot-Sample #: A4L100205-005      G0QHA1D3-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	44	(35 - 116)
	46	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #....: A4L100189

Matrix.....: SOLID

Date Sampled....: 12/13/04 17:05 Date Received...: 12/15/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A4L150212-023 Prep Batch #....: 4350331

% Moisture.....: 21

Arsenic	83	(75 - 125)			SW846 6010B	12/16-12/20/04	G04WG1AG
	85	(75 - 125)	2.0	(0-20)	SW846 6010B	12/16-12/20/04	G04WG1AH

Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A4L100189

Matrix.....: SOLID

Date Sampled...: 12/06/04 14:00 Date Received...: 12/07/04

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: A4L080356-001 Prep Batch #...: 4355012						
Leach Date.....: 12/16/04 Leach Batch #...: P435207						
Barium	96	(50 - 150)		SW846 6010B	12/20/04	G0J881A5
	95	(50 - 150)	1.4 (0-20)	SW846 6010B	12/20/04	G0J881A6
Dilution Factor: 5						
Cadmium	98	(50 - 150)		SW846 6010B	12/20/04	G0J881A7
	96	(50 - 150)	2.4 (0-20)	SW846 6010B	12/20/04	G0J881A8
Dilution Factor: 5						
Chromium	97	(50 - 150)		SW846 6010B	12/20/04	G0J881A9
	95	(50 - 150)	2.4 (0-20)	SW846 6010B	12/20/04	G0J881CA
Dilution Factor: 5						
Lead	98	(50 - 150)		SW846 6010B	12/20/04	G0J881CC
	96	(50 - 150)	2.5 (0-20)	SW846 6010B	12/20/04	G0J881CD
Dilution Factor: 5						
Selenium	98	(50 - 150)		SW846 6010B	12/20/04	G0J881CE
	98	(50 - 150)	0.51 (0-20)	SW846 6010B	12/20/04	G0J881CF
Dilution Factor: 5						
Silver	99	(50 - 150)		SW846 6010B	12/20/04	G0J881CG
	97	(50 - 150)	1.7 (0-20)	SW846 6010B	12/20/04	G0J881CH
Dilution Factor: 5						
Arsenic	100	(50 - 150)		SW846 6010B	12/20/04	G0J881A3
	98	(50 - 150)	2.0 (0-20)	SW846 6010B	12/20/04	G0J881A4
Dilution Factor: 5						
Mercury	107	(50 - 150)		SW846 7470A	12/20-12/21/04	G0J881CJ
	113	(50 - 150)	5.3 (0-20)	SW846 7470A	12/20-12/21/04	G0J881CK
Dilution Factor: 1						

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #....: A4L100189

Work Order #....: G0E8R-SMP  
G0E8R-DUP

Matrix.....: SOLID

Date Sampled....: 12/03/04

Date Received...: 12/07/04

% Moisture.....: 8.6

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>			<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	91.4	91.9	%	0.48	(0-20)	MCAWW 160.3 MOD	12/16/04	4351050

SD Lot-Sample #: A4L070185-001

Dilution Factor: 1







**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Walden Manufactured Gas & Oil Plant

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
	12-9-04	11:00	S-120904-PP-001	Soil	2	TCLP VOC's TCLP SVOC's TCLP Arsenic TCLP Metals Site Specific Sub Total Arsenic	Category 2-2
	12-9-04	11:25	S-120904-PP-002	Soil	2	X X X X X X	Category 3-2
	12-9-04	13:25	S-120904-PP-101	Soil	2	X X X X X X	Site II Verification
	12-9-04	13:30	S-120904-PP-102	Soil	2	X X X X X X	Site II Verification
	12-9-04	13:35	S-120904-PP-103	Soil	2	X X X X X X	Site II Verification
	12-9-04	13:38	S-120904-PP-104	Soil	2	X X X X X X	Site II Verification
	12-9-04	13:40	S-120904-PP-105	Soil	2	X X X X X X	Site II Verification
	12-9-04	13:45	S-120904-PP-106	Soil	2	X X X X X X	Site II Verification
TOTAL NUMBER OF CONTAINERS					14		

RELINQUISHED BY: <i>[Signature]</i>	DATE: 12/9/04	RECEIVED BY: <i>[Signature]</i>	DATE: 12/9/04
RELINQUISHED BY: <i>[Signature]</i>	DATE: 12/9/04	RECEIVED BY: <i>[Signature]</i>	DATE: 12/9/04
RELINQUISHED BY: <i>[Signature]</i>	DATE: 12/9/04	RECEIVED BY: <i>[Signature]</i>	DATE: 12/9/04

METHOD OF SHIPMENT: **FED EX** AIR BILL NO. 8490 1342 6173

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: *P. Pathak*

RECEIVED FOR LABORATORY BY: *Sharon Nalred* DATE: 12/14/04 TIME: 1015

**STL Cooler Receipt Form/Narrative**

Lot Number: 1410189

**North Canton Facility**

Client: CRA Project: Waukegan Manager Quote#: \_\_\_\_\_  
 Cooler Received on: 12/10/04 Opened on: 12/10/04 by: Shelid Naved  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 5.8 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

√

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Am - 12-22 ppt = 12-28 - per am 12-10-04 AMB

Client ID	pH	Date	Initials



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

**WAUKEGAN COKE**

**Lot #: A4L150288**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**January 7, 2005**

# **CASE NARRATIVE**

A4L150288

The following report contains the analytical results for five solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Coke Site, project number 019023-84. The samples were received December 15, 2004, according to documented sample acceptance procedures.

Samples submitted for Site VOCs were analyzed for Site SVOCs as instructed by Dave Hendren on December 16, 2004.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 4, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.3°C.

#### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

#### **GC/MS SEMIVOLATILES**

The matrix spike/matrix spike duplicate(s) for S-121404-TL-107 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

Sample S-121404-TL-006 exhibited surrogate recovery outside acceptance limits. Upon re-extraction and reanalysis, surrogates remained outside acceptance limits demonstrating matrix effect.

Sample(s) S-121404-TL-107 had elevated reporting limits due to matrix interference.

#### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

*\* for analyses run on TJA Trace ICP only*

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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### **STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (# E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

*Revision 10, 10/12/04  
n:\qaqc\narrativ\stl.doc*

# EXECUTIVE SUMMARY - Detection Highlights

A4L150288

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-121404-TL-107 12/14/04 003</b>				
Arsenic	6.2	5.7	mg/kg	SW846 6010B
Percent Solids	88.2	10.0	%	MCAWW 160.3 MOD
<b>S-121404-TL-108 12/14/04 004</b>				
Arsenic	10.7	6.5	mg/kg	SW846 6010B
Benzo(b) fluoranthene	11000	2900	ug/kg	SW846 8270C
Benzo(a)pyrene	5800	2900	ug/kg	SW846 8270C
4-Methylphenol	7600	2900	ug/kg	SW846 8270C
Naphthalene	5100	2900	ug/kg	SW846 8270C
Benzo(a)anthracene	9000	2900	ug/kg	SW846 8270C
Percent Solids	76.8	10.0	%	MCAWW 160.3 MOD
<b>S-121404-TL-109 12/14/04 005</b>				
Arsenic	8.2	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	2000000	940000	ug/kg	SW846 8270C
Benzo(a)pyrene	1700000	940000	ug/kg	SW846 8270C
Dibenzofuran	2300000	940000	ug/kg	SW846 8270C
4-Methylphenol	1400000	940000	ug/kg	SW846 8270C
Naphthalene	13000000	940000	ug/kg	SW846 8270C
Benzo(a)anthracene	2600000	940000	ug/kg	SW846 8270C
Percent Solids	87.6	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A4L150288

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A4L150288

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G05FQ	001	S-121404-TL-005	12/14/04	12:56
G05FW	002	S-121404-TL-006	12/14/04	13:02
G05FX	003	S-121404-TL-107	12/14/04	
G05XA	004	S-121404-TL-108	12/14/04	
G05XC	005	S-121404-TL-109	12/14/04	

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-005

TCLP GC/MS Volatiles

Lot-Sample #...: A4L150288-001 Work Order #...: G05FQ1AA Matrix.....: SO  
 Date Sampled...: 12/14/04 12:56 Date Received...: 12/15/04  
 Leach Date.....: 12/27/04 Prep Date.....: 12/29/04 Analysis Date...: 12/29/04  
 Leach Batch #...: P436305 Prep Batch #...: 4365092  
 Dilution Factor: 1  
 % Moisture.....: Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	105	(86 - 125)
1,2-Dichloroethane-d4	102	(80 - 122)
Toluene-d8	108	(93 - 122)
4-Bromofluorobenzene	102	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-005

TCLP GC/MS Semivolatiles

Lot-Sample #...: A4L150288-001    Work Order #...: G05FQ1AD    Matrix.....: SO  
 Date Sampled...: 12/14/04 12:56    Date Received...: 12/15/04  
 Leach Date.....: 12/20/04    Prep Date.....: 12/21/04    Analysis Date...: 12/22/04  
 Leach Batch #...: P435510    Prep Batch #...: 4356033  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	53	(32 - 112)
2-Fluorobiphenyl	62	(30 - 110)
Terphenyl-d14	69	(10 - 144)
Phenol-d5	28	(10 - 113)
2-Fluorophenol	35	(13 - 110)
2,4,6-Tribromophenol	75	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-005

TCLP Metals

Lot-Sample #...: A4L150288-001

Matrix.....: SO

Date Sampled...: 12/14/04 12:56 Date Received...: 12/15/04

Leach Date.....: 12/20/04 Leach Batch #...: P435510

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 4356398						
Arsenic	ND	0.50	mg/L	SW846 6010B	12/22-12/28/04	G05FQ1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-006

TCLP GC/MS Volatiles

Lot-Sample #...: A4L150288-002    Work Order #...: G05FW1AA    Matrix.....: SO  
 Date Sampled...: 12/14/04 13:02    Date Received...: 12/15/04  
 Leach Date.....: 12/27/04    Prep Date.....: 12/29/04    Analysis Date...: 12/29/04  
 Leach Batch #...: P436305    Prep Batch #...: 4365092  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	105	(86 - 125)
1,2-Dichloroethane-d4	101	(80 - 122)
Toluene-d8	106	(93 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-006

TCLP GC/MS Semivolatiles

Lot-Sample #...: A4L150288-002 Work Order #...: G05FW2AD Matrix.....: SO  
 Date Sampled...: 12/14/04 13:02 Date Received...: 12/15/04  
 Leach Date.....: 12/20/04 Prep Date.....: 12/28/04 Analysis Date...: 12/29/04  
 Leach Batch #...: P435510 Prep Batch #...: 4363043  
 Dilution Factor: 1  
 % Moisture.....: Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	(32 - 112)
2-Fluorobiphenyl	63	(30 - 110)
Terphenyl-d14	84	(10 - 144)
Phenol-d5	30	(10 - 113)
2-Fluorophenol	18	(13 - 110)
2,4,6-Tribromophenol	18 *	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-006

TCLP Metals

Lot-Sample #....: A4L150288-002

Matrix.....: SO

Date Sampled...: 12/14/04 13:02 Date Received...: 12/15/04

Leach Date.....: 12/20/04 Leach Batch #...: P435510

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #....: 4356398						
Arsenic	ND	0.50	mg/L	SW846 6010B	12/22-12/28/04	G05FW1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-107

GC/MS Semivolatiles

Lot-Sample #....: A4L150288-003    Work Order #....: G05FX1AD    Matrix.....: SO  
Date Sampled...: 12/14/04    Date Received...: 12/15/04  
Prep Date.....: 12/17/04    Analysis Date...: 12/22/04  
Prep Batch #....: 4352042  
Dilution Factor: 10  
% Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo(b) fluoranthene	ND	3700	ug/kg
Benzo(a)pyrene	ND	3700	ug/kg
Dibenz(a,h)anthracene	ND	3700	ug/kg
Dibenzofuran	ND	3700	ug/kg
Indeno(1,2,3-cd)pyrene	ND	3700	ug/kg
4-Methylphenol	ND	3700	ug/kg
Naphthalene	ND	3700	ug/kg
Benzo(a)anthracene	ND	3700	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	82 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
Terphenyl-d14	65 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	63 DIL	(11 - 116)
2,4,6-Tribromophenol	80 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-107

TOTAL Metals

Lot-Sample #...: A4L150288-003

Matrix.....: SO

Date Sampled...: 12/14/04

Date Received...: 12/15/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355373						
Arsenic	6.2	5.7	mg/kg	SW846 6010B	12/21-12/28/04	G05FXLAC
		Dilution Factor: 5				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-107

General Chemistry

Lot-Sample #....: A4L150288-003

Work Order #....: G05FX

Matrix.....: SO

Date Sampled....: 12/14/04

Date Received...: 12/15/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.2	10.0	%	MCAWW 160.3 MOD	12/21-12/22/04	4356478

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-108

GC/MS Semivolatiles

Lot-Sample #....: A4L150288-004    Work Order #....: G05XA1AD    Matrix.....: SO  
 Date Sampled...: 12/14/04    Date Received...: 12/15/04  
 Prep Date.....: 12/17/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4352042  
 Dilution Factor: 6.66  
 % Moisture.....: 23    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	11000	2900	ug/kg
Benzo (a) pyrene	5800	2900	ug/kg
Dibenz (a, h) anthracene	ND	2900	ug/kg
Dibenzofuran	ND	2900	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	2900	ug/kg
4-Methylphenol	7600	2900	ug/kg
Naphthalene	5100	2900	ug/kg
Benzo (a) anthracene	9000	2900	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	61 DIL	(42 - 110)
2-Fluorobiphenyl	60 DIL	(43 - 110)
Terphenyl-d14	63 DIL	(37 - 137)
Phenol-d5	43 DIL	(25 - 115)
2-Fluorophenol	26 DIL	(11 - 116)
2,4,6-Tribromophenol	43 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-108

TOTAL Metals

Lot-Sample #...: A4L150288-004

Date Sampled...: 12/14/04

Date Received...: 12/15/04

Matrix.....: SO

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355373						
Arsenic	10.7	6.5	mg/kg	SW846 6010B	12/21-12/28/04	G05XA1AC

Dilution Factor: 5

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-108

General Chemistry

Lot-Sample #....: A4L150288-004    Work Order #....: G05XA    Matrix.....: SO  
Date Sampled....: 12/14/04    Date Received...: 12/15/04  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.8	10.0	%	MCAWW 160.3 MOD	12/21-12/22/04	4356478

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-109

GC/MS Semivolatiles

Lot-Sample #...: A4L150288-005    Work Order #...: G05XC1AD    Matrix.....: SO  
 Date Sampled...: 12/14/04    Date Received...: 12/15/04  
 Prep Date.....: 12/17/04    Analysis Date...: 12/21/04  
 Prep Batch #...: 4352042  
 Dilution Factor: 1000  
 ‡ Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	2000000	940000	ug/kg
Benzo (a) pyrene	1700000	940000	ug/kg
Dibenz (a, h) anthracene	ND	940000	ug/kg
Dibenzofuran	2300000	940000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	940000	ug/kg
4-Methylphenol	1400000	940000	ug/kg
Naphthalene	13000000	940000	ug/kg
Benzo (a) anthracene	2600000	940000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2, 4, 6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-109

TOTAL Metals

Lot-Sample #...: A4L150288-005

Matrix.....: SO

Date Sampled...: 12/14/04

Date Received...: 12/15/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355373						
Arsenic	8.2	1.1	mg/kg	SW846 6010B	12/21-12/28/04	G05XC1AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121404-TL-109

General Chemistry

Lot-Sample #....: A4L150288-005

Work Order #....: G05XC

Matrix.....: SO

Date Sampled...: 12/14/04

Date Received...: 12/15/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.6	10.0	%	MCAWW 160.3 MOD	12/21-12/22/04	4356478

Dilution Factor: 1

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A4L150288  
 MB Lot-Sample #: A4L280000-055  
 Leach Date.....: 12/27/04  
 Leach Batch #...: P436305  
 Dilution Factor: 1

Work Order #...: G1T0J1AA  
 Prep Date.....: 12/29/04  
 Prep Batch #...: 4365092

Matrix.....: SOLID  
 Analysis Date...: 12/29/04

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	100	(80 - 122)
Toluene-d8	107	(90 - 122)
4-Bromofluorobenzene	95	(84 - 125)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #....: A4L150288  
 MB Lot-Sample #: A4L170000-042

Work Order #....: G1ATJ1AA

Matrix.....: SOLID

Analysis Date...: 12/20/04  
 Dilution Factor: 1

Prep Date.....: 12/17/04

Prep Batch #....: 4352042

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
Benzo(a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	63	(42 - 110)
2-Fluorobiphenyl	57	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	63	(25 - 115)
2-Fluorophenol	60	(11 - 116)
2,4,6-Tribromophenol	43	(35 - 116)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A4L150288  
 MB Lot-Sample #: A4L210000-033  
 Leach Date.....: 12/20/04  
 Leach Batch #...: P435510  
 Dilution Factor: 1

Work Order #...: G1J411AA  
 Prep Date.....: 12/21/04  
 Prep Batch #...: 4356033

Matrix.....: SOLID  
 Analysis Date...: 12/22/04

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	54	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	70	(10 - 144)
Phenol-d5	45	(10 - 113)
2-Fluorophenol	48	(13 - 110)
2,4,6-Tribromophenol	73	(21 - 122)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A4L150288  
 MB Lot-Sample #: A4L280000-043  
 Leach Date.....: 12/20/04  
 Leach Batch #...: P435510  
 Dilution Factor: 1

Work Order #...: G1TX31AA  
 Prep Date.....: 12/28/04  
 Prep Batch #...: 4363043

Matrix.....: SOLID  
 Analysis Date...: 12/29/04

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72	(32 - 112)
2-Fluorobiphenyl	59	(30 - 110)
Terphenyl-d14	82	(10 - 144)
Phenol-d5	58	(10 - 113)
2-Fluorophenol	59	(13 - 110)
2,4,6-Tribromophenol	69	(21 - 122)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A4L200000-373				Prep Batch #...: 4355373		
Arsenic	ND	1.0	mg/kg	SW846 6010B	12/21-12/28/04	G1HXE1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #:	A4L200000-582	Prep Batch #...:	4356398			
Leach Date.....:	12/20/04	Leach Batch #...:	P435510			
Arsenic	ND	0.50	mg/L	SW846 6010B	12/22-12/28/04	G1JLV1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A4L210000-398				Prep Batch #...: 4356398		
Arsenic	ND	0.50	mg/L	SW846 6010B	12/22-12/28/04	G1LJ41AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G1LVA1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A4L210000-478 12/21-12/22/04	4356478
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #...: A4L150288      Work Order #...: G10Q51AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L300000-092      G10Q51AC-LCSD  
 Prep Date.....: 12/29/04      Analysis Date...: 12/29/04  
 Prep Batch #...: 4365092  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>90</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	<b>94</b>	<b>(76 - 118)</b>	<b>4.2</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>92</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	<b>95</b>	<b>(76 - 113)</b>	<b>2.8</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	<b>94</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	<b>96</b>	<b>(67 - 128)</b>	<b>2.2</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	<b>91</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	<b>93</b>	<b>(76 - 119)</b>	<b>1.8</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>89</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	<b>91</b>	<b>(72 - 117)</b>	<b>2.6</b>	<b>(0-30)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
<b>Dibromofluoromethane</b>	101	(86 - 124)
	110	(86 - 124)
<b>1,2-Dichloroethane-d4</b>	97	(80 - 122)
	104	(80 - 122)
<b>Toluene-d8</b>	101	(90 - 122)
	108	(90 - 122)
<b>4-Bromofluorobenzene</b>	100	(84 - 125)
	107	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L150288      Work Order #...: GIATJ1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L170000-042  
 Prep Date.....: 12/17/04      Analysis Date...: 12/20/04  
 Prep Batch #...: 4352042  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,2,4-Trichloro- benzene</b>	<b>77</b>	<b>(45 - 110)</b>	<b>SW846 8270C</b>
<b>Acenaphthene</b>	<b>70</b>	<b>(44 - 110)</b>	<b>SW846 8270C</b>
<b>2,4-Dinitrotoluene</b>	<b>75</b>	<b>(48 - 111)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>77</b>	<b>(42 - 122)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl- amine</b>	<b>89</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>1,4-Dichlorobenzene</b>	<b>87</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>Pentachlorophenol</b>	<b>52</b>	<b>(10 - 123)</b>	<b>SW846 8270C</b>
<b>Phenol</b>	<b>72</b>	<b>(35 - 110)</b>	<b>SW846 8270C</b>
<b>2-Chlorophenol</b>	<b>70</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Chloro-3-methylphenol</b>	<b>65</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Nitrophenol</b>	<b>62</b>	<b>(22 - 128)</b>	<b>SW846 8270C</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	73	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	74	(25 - 115)
2-Fluorophenol	71	(11 - 116)
2,4,6-Tribromophenol	56	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L150288      Work Order #...: G1J411AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L210000-033      G1J411AD-LCSD  
 Prep Date.....: 12/21/04      Analysis Date...: 12/28/04  
 Prep Batch #...: 4356033  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
o-Cresol	62	(33 - 115)			SW846 8270C
	60	(33 - 115)	3.5	(0-31)	SW846 8270C
m-Cresol & p-Cresol	66	(46 - 109)			SW846 8270C
	62	(46 - 109)	6.5	(0-32)	SW846 8270C
1,4-Dichlorobenzene	62	(28 - 110)			SW846 8270C
	73	(28 - 110)	16	(0-36)	SW846 8270C
2,4-Dinitrotoluene	77	(47 - 131)			SW846 8270C
	83	(47 - 131)	8.3	(0-32)	SW846 8270C
Hexachlorobenzene	83	(57 - 128)			SW846 8270C
	90	(57 - 128)	8.0	(0-22)	SW846 8270C
Hexachlorobutadiene	53	(36 - 116)			SW846 8270C
	63	(36 - 116)	16	(0-32)	SW846 8270C
Hexachloroethane	55	(30 - 110)			SW846 8270C
	62	(30 - 110)	13	(0-33)	SW846 8270C
Nitrobenzene	71	(45 - 130)			SW846 8270C
	67	(45 - 130)	5.8	(0-50)	SW846 8270C
Pentachlorophenol	68	(10 - 140)			SW846 8270C
	84	(10 - 140)	21	(0-56)	SW846 8270C
Pyridine	52	(10 - 148)			SW846 8270C
	53	(10 - 148)	1.4	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	72	(41 - 125)			SW846 8270C
	75	(41 - 125)	3.5	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	72	(46 - 135)			SW846 8270C
	73	(46 - 135)	0.99	(0-27)	SW846 8270C
Cresols (total)	65	(46 - 109)			SW846 8270C
	61	(46 - 109)	5.5	(0-32)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	74	(32 - 112)
	66	(32 - 112)
2-Fluorobiphenyl	64	(30 - 110)
	78	(30 - 110)
Terphenyl-d14	80	(10 - 144)
	81	(10 - 144)
Phenol-d5	47	(10 - 113)

(Continued on next page)



**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L150288      Work Order #...: GTX31AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L280000-043      GTX31AD-LCSD  
 Prep Date.....: 12/28/04      Analysis Date...: 12/29/04  
 Prep Batch #...: 4363043  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>o-Cresol</b>	75	(33 - 115)			SW846 8270C
	69	(33 - 115)	7.9	(0-31)	SW846 8270C
<b>m-Cresol &amp; p-Cresol</b>	76	(46 - 109)			SW846 8270C
	76	(46 - 109)	0.010	(0-32)	SW846 8270C
<b>1,4-Dichlorobenzene</b>	68	(28 - 110)			SW846 8270C
	69	(28 - 110)	1.3	(0-36)	SW846 8270C
<b>2,4-Dinitrotoluene</b>	83	(47 - 131)			SW846 8270C
	79	(47 - 131)	4.6	(0-32)	SW846 8270C
<b>Hexachlorobenzene</b>	87	(57 - 128)			SW846 8270C
	84	(57 - 128)	3.0	(0-22)	SW846 8270C
<b>Hexachlorobutadiene</b>	56	(36 - 116)			SW846 8270C
	62	(36 - 116)	12	(0-32)	SW846 8270C
<b>Hexachloroethane</b>	54	(30 - 110)			SW846 8270C
	62	(30 - 110)	14	(0-33)	SW846 8270C
<b>Nitrobenzene</b>	81	(45 - 130)			SW846 8270C
	79	(45 - 130)	2.5	(0-50)	SW846 8270C
<b>Pentachlorophenol</b>	79	(10 - 140)			SW846 8270C
	73	(10 - 140)	6.8	(0-56)	SW846 8270C
<b>Pyridine</b>	75	(10 - 148)			SW846 8270C
	69	(10 - 148)	8.3	(0-65)	SW846 8270C
<b>2,4,5-Trichloro-phenol</b>	67	(41 - 125)			SW846 8270C
	69	(41 - 125)	1.8	(0-22)	SW846 8270C
<b>2,4,6-Trichloro-phenol</b>	72	(46 - 135)			SW846 8270C
	72	(46 - 135)	1.0	(0-27)	SW846 8270C
<b>Cresols (total)</b>	76	(46 - 109)			SW846 8270C
	74	(46 - 109)	2.5	(0-32)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	82	(32 - 112)
	79	(32 - 112)
2-Fluorobiphenyl	71	(30 - 110)
	69	(30 - 110)
Terphenyl-d14	79	(10 - 144)
	79	(10 - 144)
Phenol-d5	66	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L150288      Work Order #...: G1TX31AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A4L280000-043      G1TX31AD-LCSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
	66	(10 - 113)
2-Fluorophenol	70	(13 - 110)
	71	(13 - 110)
2,4,6-Tribromophenol	79	(21 - 122)
	73	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A4L200000-373	Prep Batch #...:	4355373		
Arsenic	89	(80 - 120)	SW846 6010B	12/21-12/28/04	G1HXE1A3
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #....: A4L150288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A4L210000-398	Prep Batch #....:	4356398		
Arsenic	99	(50 - 150)	SW846 6010B	12/22-12/28/04	G1LJ41AK
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A4L150288      Work Order #...: G1CD51A0-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A4L170142-001      G1CD51A1-MSD  
 Date Sampled...: 12/16/04 13:00      Date Received...: 12/17/04  
 Leach Date.....: 12/27/04      Prep Date.....: 12/29/04      Analysis Date...: 12/30/04  
 Leach Batch #...: P436305      Prep Batch #...: 4365092  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	87	(76 - 117)			SW846 8260B
	90	(76 - 117)	3.6	(0-30)	SW846 8260B
Chlorobenzene	84	(72 - 114)			SW846 8260B
	87	(72 - 114)	2.4	(0-30)	SW846 8260B
1,1-Dichloroethylene	89	(67 - 129)			SW846 8260B
	93	(67 - 129)	4.7	(0-30)	SW846 8260B
Trichloroethylene	84	(72 - 121)			SW846 8260B
	87	(72 - 121)	4.1	(0-30)	SW846 8260B
Toluene	81	(67 - 113)			SW846 8260B
	84	(67 - 113)	3.0	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	102	(86 - 125)
	108	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
	102	(80 - 122)
Toluene-d8	101	(90 - 122)
	107	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)
	105	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L150288      Work Order #...: G05FX1AE-MS      Matrix.....: SO  
 MS Lot-Sample #: A4L150288-003      G05FX1AF-MSD  
 Date Sampled...: 12/14/04      Date Received...: 12/15/04  
 Prep Date.....: 12/17/04      Analysis Date...: 12/22/04  
 Prep Batch #...: 4352042  
 Dilution Factor: 10

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	76 DIL	(16 - 121)			SW846 8270C
	78 DIL	(16 - 121)	2.7	(0-54)	SW846 8270C
Acenaphthene	37 DIL	(13 - 133)			SW846 8270C
	99 DIL	(13 - 133)	44	(0-44)	SW846 8270C
2,4-Dinitrotoluene	79 DIL	(10 - 171)			SW846 8270C
	85 DIL	(10 - 171)	6.9	(0-45)	SW846 8270C
Pyrene	298 DIL, a	(10 - 218)			SW846 8270C
	2510	(10 - 218)	122	(0-66)	SW846 8270C
	Qualifiers: DIL, a, p				
N-Nitrosodi-n-propyl-amine	85 DIL	(12 - 128)			SW846 8270C
	73 DIL	(12 - 128)	15	(0-50)	SW846 8270C
1,4-Dichlorobenzene	85 DIL	(18 - 110)			SW846 8270C
	66 DIL	(18 - 110)	26	(0-59)	SW846 8270C
Pentachlorophenol	132 DIL	(10 - 144)			SW846 8270C
	127 DIL	(10 - 144)	3.6	(0-87)	SW846 8270C
Phenol	103 DIL	(10 - 148)			SW846 8270C
	139 DIL	(10 - 148)	29	(0-50)	SW846 8270C
2-Chlorophenol	72 DIL	(17 - 116)			SW846 8270C
	67 DIL	(17 - 116)	7.8	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	86 DIL	(17 - 128)			SW846 8270C
	92 DIL	(17 - 128)	6.8	(0-55)	SW846 8270C
4-Nitrophenol	0.0 DIL, a	(10 - 148)			SW846 8270C
	0.0 DIL, a	(10 - 148)	0.0	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77 DIL	(42 - 110)
	82 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
	65 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
	64 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
	61 DIL	(25 - 115)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #....: A4L150288      Work Order #....: G05FX1AE-MS      Matrix.....: SO  
MS Lot-Sample #: A4L150288-003      G05FX1AF-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorophenol	56 DIL	(11 - 116)
	48 DIL	(11 - 116)
2,4,6-Tribromophenol	85 DIL	(35 - 116)
	80 DIL	(35 - 116)

**NOTE(S):**

- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.  
p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A4L150288

Matrix.....: SOLID

Date Sampled...: 12/17/04 11:00 Date Received...: 12/18/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A4L180192-002 Prep Batch #...: 4355373

% Moisture.....: 85

Arsenic	90	(75 - 125)			SW846 6010B	12/21-12/28/04	G1F641A8
	85	(75 - 125)	5.5	(0-20)	SW846 6010B	12/21-12/28/04	G1F641A9

Dilution Factor: 10

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #....: A4L150288

Matrix.....: SOLID

Date Sampled...: 12/14/04 11:45 Date Received...: 12/15/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MS Lot-Sample #:	A4L150171-001		Prep Batch #....: 4356398				
Leach Date.....:	12/20/04		Leach Batch #...: P435510				
Arsenic	102	(50 - 150)			SW846 6010B	12/22-12/28/04	G04HR1AU
	100	(50 - 150)	2.1	(0-20)	SW846 6010B	12/22-12/28/04	G04HR1AV

Dilution Factor: 5

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #....: A4L150288

Work Order #....: G05VF-SMP  
G05VF-DUP

Matrix.....: SOLID

Date Sampled....: 12/14/04 13:30 Date Received...: 12/15/04

% Moisture.....: 17

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids						SD Lot-Sample #: A4L150331-003		
82.7		82.7	%	0.002	(0-20)	MCAWW 160.3 MOD	12/21-12/22/04	4356478

Dilution Factor: 1



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL - North Canton

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan Lake

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: TIM LEO

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. of CONTAINERS	PARAMETERS				REMARKS	
						TECP VOC	TECP SVOC	TECP ARSENIC	StE VOC		
									Total ARSENIC		
12-14	12:56		S-121409-TL-005	Soil	2	X	X	X			CAT 2.3
12-14	13:02		S-121409-TL-006	Soil	2	X	X	X			CAT 2.4
12-14			S-121409-TL-107	Soil	1				X		SIDEWALK
12-14			S-121409-TL-108	Soil	1				X		SIDEWALK
12-14			S-121499-TL-109	Soil	1				X		SIDEWALK

TOTAL NUMBER OF CONTAINERS

7

RELINQUISHED BY: <i>[Signature]</i>	DATE: 12/14/04	RECEIVED BY: <i>[Signature]</i>	DATE: 12/14/04
RELINQUISHED BY:	DATE: 16:20	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:

METHOD OF SHIPMENT:

AIR BILL No.

- White -Fully Executed Copy
- Yellow -Receiving Laboratory Copy
- Pink -Shipper Copy
- Goldenrod -Sampler Copy

SAMPLE TEAM: LEO

RECEIVED FOR LABORATORY BY: *[Signature]*

12195

DATE: 12/15/04 TIME: 10:30 AM

**STL Cooler Receipt Form/Narrative**

Lot Number: A4L150286

**North Canton Facility**

Client: Con Estoga - River Assoc Project: \_\_\_\_\_  
 Cooler Received on: 12/15/04 Opened on: 12/15/04

Quote#: \_\_\_\_\_  
 by: Diana Miller  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# K4117 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.3 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM [Signature] Date: 12/15/04 by: [Signature] via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
Split off 107, 108, + 109 in sample receiving for total  
solid 12/15/04 - per 12-16-04

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back) Site VOC = site SVOC per ALM/Client per 12-16-04  
(-select)

Client ID	pH	Date	Initials

SOP: NC-SC-0005, Sample Receiving  
 N:\QAQC\WARRANTY\STL\Cooler Receipt STL\COOLER\_STL\_Rev45 112204.doc



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 19023-84

WAUKEGAN COKE

Lot #: A4L170377

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

January 10, 2005

# **CASE NARRATIVE**

A4L170377

The following report contains the analytical results for twenty-one solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Coke Site, project number 19023-84. The samples were received December 17, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 06, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.6°C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-121604-TL-122, S-121604-TL-123, S-121604-TL-129, and S-121604-TL-130 due to high analyte concentrations.

Sample(s) S-121604-TL-110, S-121604-TL-111, S-121604-TL-112, S-121604-TL-113, and S-121604-TL-127 each had up to one surrogate recovery per fraction outside acceptance limits. However, since the recoveries were greater than 10% and all associated QC met criteria, no corrective action was taken.

Internal standard areas were outside acceptance limits for sample(s) S-121604-TL-119 (Phenanthrene-d10 out high) and S-121604-TL-121 (Phenanthrene-d10 out high) due to matrix effects.

The matrix spike/matrix spike duplicate associated with batch 4355053, sample S-121604-TL-110, failed surrogate recovery criteria. The laboratory control sample and method blank associated with this batch were in control; therefore, no corrective action was necessary.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

\* for analyses run on TJA Trace ICP only

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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### **STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (#E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

# EXECUTIVE SUMMARY - Detection Highlights

A4L170377

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-121604-TL-110 12/16/04 11:15 001</b>				
Arsenic	46.9	1.2	mg/kg	SW846 6010B
Percent Solids	85.5	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-111 12/16/04 11:10 002</b>				
Arsenic	53.0	1.1	mg/kg	SW846 6010B
Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-112 12/16/04 11:07 003</b>				
Arsenic	29.5	1.2	mg/kg	SW846 6010B
Percent Solids	86.0	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-113 12/16/04 11:19 004</b>				
Arsenic	69.4	1.2	mg/kg	SW846 6010B
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-114 12/16/04 11:31 005</b>				
Arsenic	129	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	3600	760	ug/kg	SW846 8270C
Benzo(a)pyrene	1600	760	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1100	760	ug/kg	SW846 8270C
Benzo(a)anthracene	2800	760	ug/kg	SW846 8270C
Percent Solids	87.1	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-115 12/16/04 11:27 006</b>				
Arsenic	54.2	1.2	mg/kg	SW846 6010B
Benzo(b) fluoranthene	5900	1900	ug/kg	SW846 8270C
Benzo(a)pyrene	3500	1900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1900	1900	ug/kg	SW846 8270C
Benzo(a)anthracene	6200	1900	ug/kg	SW846 8270C
Percent Solids	85.7	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-116 12/16/04 12:03 007</b>				
Arsenic	83.4	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	2100	750	ug/kg	SW846 8270C
Benzo(a)pyrene	1200	750	ug/kg	SW846 8270C
Benzo(a)anthracene	1700	750	ug/kg	SW846 8270C
Percent Solids	87.5	10.0	%	MCAWW 160.3 MOD

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-121604-TL-117 12/16/04 11:58 008</b>				
Arsenic	81.4	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	1600	380	ug/kg	SW846 8270C
Benzo (a) pyrene	690	380	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	600	380	ug/kg	SW846 8270C
Naphthalene	430	380	ug/kg	SW846 8270C
Percent Solids	87.5	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-118 12/16/04 11:36 009</b>				
Arsenic	545	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	1700	740	ug/kg	SW846 8270C
Benzo (a) pyrene	930	740	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	830	740	ug/kg	SW846 8270C
Naphthalene	990	740	ug/kg	SW846 8270C
Benzo (a) anthracene	1600	740	ug/kg	SW846 8270C
Percent Solids	88.8	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-119 12/16/04 11:41 010</b>				
Arsenic	65.9	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	2900	890	ug/kg	SW846 8270C
Benzo (a) pyrene	1500	890	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	960	890	ug/kg	SW846 8270C
Naphthalene	1500	890	ug/kg	SW846 8270C
Percent Solids	92.5	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-120 12/16/04 11:45 011</b>				
Arsenic	31.8	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	3000	900	ug/kg	SW846 8270C
Benzo (a) pyrene	1700	900	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	1200	900	ug/kg	SW846 8270C
Naphthalene	2000	900	ug/kg	SW846 8270C
Percent Solids	91.8	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-121 12/16/04 11:54 012</b>				
Arsenic	11.9	1.1	mg/kg	SW846 6010B
Benzo (a) anthracene	760	380	ug/kg	SW846 8270C
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-121604-TL-122 12/16/04 13:03 013</b>				
Arsenic	129	1.2	mg/kg	SW846 6010B
Benzo(b) fluoranthene	4500	1600	ug/kg	SW846 8270C
Benzo(a) pyrene	2600	1600	ug/kg	SW846 8270C
Dibenzofuran	4800	1600	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	1600	1600	ug/kg	SW846 8270C
Naphthalene	19000 E	1600	ug/kg	SW846 8270C
Benzo(a) anthracene	4100	1600	ug/kg	SW846 8270C
Naphthalene	46000	16000	ug/kg	SW846 8270C
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-123 12/16/04 13:07 014</b>				
Arsenic	196	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	5400	1500	ug/kg	SW846 8270C
Benzo(a) pyrene	3100	1500	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	3900	1500	ug/kg	SW846 8270C
Naphthalene	16000 E	1500	ug/kg	SW846 8270C
Benzo(a) anthracene	1600	1500	ug/kg	SW846 8270C
Naphthalene	33000	7400	ug/kg	SW846 8270C
Percent Solids	89.3	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-124 12/16/04 13:12 015</b>				
Arsenic	98.1	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	6600	1500	ug/kg	SW846 8270C
Benzo(a) pyrene	3700	1500	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	2400	1500	ug/kg	SW846 8270C
Naphthalene	2300	1500	ug/kg	SW846 8270C
Benzo(a) anthracene	4900	1500	ug/kg	SW846 8270C
Percent Solids	89.8	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-125 12/16/04 13:18 016</b>				
Arsenic	43.8	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	10000	2400	ug/kg	SW846 8270C
Benzo(a) pyrene	6300	2400	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	3300	2400	ug/kg	SW846 8270C
Benzo(a) anthracene	9500	2400	ug/kg	SW846 8270C
Percent Solids	90.3	10.0	%	MCAWW 160.3 MOD

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## EXECUTIVE SUMMARY - Detection Highlights

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PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-121604-TL-126 12/16/04 13:23 017</b>				
Arsenic	28.7	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	4100	1000	ug/kg	SW846 8270C
Benzo (a) pyrene	1800	1000	ug/kg	SW846 8270C
Indeno (1,2,3-cd) pyrene	1100	1000	ug/kg	SW846 8270C
Benzo (a) anthracene	3100	1000	ug/kg	SW846 8270C
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-127 12/16/04 13:30 018</b>				
Arsenic	178	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	480	410	ug/kg	SW846 8270C
Benzo (a) anthracene	1000	410	ug/kg	SW846 8270C
Percent Solids	81.0	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-128 12/16/04 13:34 019</b>				
Arsenic	31.9	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	2700	720	ug/kg	SW846 8270C
Benzo (a) pyrene	1800	720	ug/kg	SW846 8270C
Indeno (1,2,3-cd) pyrene	1100	720	ug/kg	SW846 8270C
Benzo (a) anthracene	2100	720	ug/kg	SW846 8270C
Percent Solids	92.0	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-129 12/16/04 13:40 020</b>				
Arsenic	596	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	4800	1600	ug/kg	SW846 8270C
Benzo (a) pyrene	3500	1600	ug/kg	SW846 8270C
Dibenzofuran	5600	1600	ug/kg	SW846 8270C
Indeno (1,2,3-cd) pyrene	2100	1600	ug/kg	SW846 8270C
Naphthalene	29000 E	1600	ug/kg	SW846 8270C
Benzo (a) anthracene	4300	1600	ug/kg	SW846 8270C
Naphthalene	35000	9700	ug/kg	SW846 8270C
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD
<b>S-121604-TL-130 12/16/04 13:46 021</b>				
Arsenic	97.1	1.1	mg/kg	SW846 6010B
Benzo (b) fluoranthene	6800	3700	ug/kg	SW846 8270C
Dibenzofuran	13000	3700	ug/kg	SW846 8270C
Naphthalene	84000 E	3700	ug/kg	SW846 8270C
Benzo (a) anthracene	6500	3700	ug/kg	SW846 8270C
Naphthalene	490000	150000	ug/kg	SW846 8270C

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# EXECUTIVE SUMMARY - Detection Highlights

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<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-121604-TL-130 12/16/04 13:46 021				
Percent Solids	89.0	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

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<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

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WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
G1ECG	001	S-121604-TL-110	12/16/04	11:15
G1ECQ	002	S-121604-TL-111	12/16/04	11:10
G1ECR	003	S-121604-TL-112	12/16/04	11:07
G1ECV	004	S-121604-TL-113	12/16/04	11:19
G1ECW	005	S-121604-TL-114	12/16/04	11:31
G1ECX	006	S-121604-TL-115	12/16/04	11:27
G1EC0	007	S-121604-TL-116	12/16/04	12:03
G1EC1	008	S-121604-TL-117	12/16/04	11:58
G1EC2	009	S-121604-TL-118	12/16/04	11:36
G1EC3	010	S-121604-TL-119	12/16/04	11:41
G1EC4	011	S-121604-TL-120	12/16/04	11:45
G1EC5	012	S-121604-TL-121	12/16/04	11:54
G1EC6	013	S-121604-TL-122	12/16/04	13:03
G1EC7	014	S-121604-TL-123	12/16/04	13:07
G1EC8	015	S-121604-TL-124	12/16/04	13:12
G1EC9	016	S-121604-TL-125	12/16/04	13:18
G1EDA	017	S-121604-TL-126	12/16/04	13:23
G1EDC	018	S-121604-TL-127	12/16/04	13:30
G1EDF	019	S-121604-TL-128	12/16/04	13:34
G1EDH	020	S-121604-TL-129	12/16/04	13:40
G1EDQ	021	S-121604-TL-130	12/16/04	13:46

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-110

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-001    Work Order #...: G1ECG1AF    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:15    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	390	ug/kg
Benzo (a) pyrene	ND	390	ug/kg
Dibenz (a, h) anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo (a) anthracene	ND	390	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	59	(42 - 110)
2-Fluorobiphenyl	49	(43 - 110)
Terphenyl-d14	71	(37 - 137)
Phenol-d5	31	(25 - 115)
2-Fluorophenol	16	(11 - 116)
2,4,6-Tribromophenol	12 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-110

TOTAL Metals

Lot-Sample #...: A4L170377-001

Matrix.....: SO

Date Sampled...: 12/16/04 11:15 Date Received...: 12/17/04

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	46.9	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1ECG1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-110

General Chemistry

Lot-Sample #....: A4L170377-001    Work Order #....: G1ECG    Matrix.....: SO  
Date Sampled....: 12/16/04 11:15    Date Received...: 12/17/04  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.5	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363261

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-111

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-002    Work Order #...: G1ECQ2AD    Matrix.....: SO  
Date Sampled...: 12/16/04 11:10    Date Received...: 12/17/04  
Prep Date.....: 12/28/04    Analysis Date...: 12/31/04  
Prep Batch #...: 4363412  
Dilution Factor: 1  
% Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	55	(25 - 115)
2-Fluorophenol	41	(11 - 116)
2,4,6-Tribromophenol	22 *	(35 - 116)

NOTE (S) :

\* Surrogate recovery is outside stated control limits.  
Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-111

TOTAL Metals

Lot-Sample #...: A4L170377-002

Matrix.....: SO

Date Sampled...: 12/16/04 11:10 Date Received...: 12/17/04

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...	4355371					
Arsenic	53.0	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1ECQ1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-111

General Chemistry

Lot-Sample #...: A4L170377-002    Work Order #...: G1ECQ    Matrix.....: SO  
Date Sampled...: 12/16/04 11:10    Date Received...: 12/17/04  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363261

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-112

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-003    Work Order #....: G1ECR1AD    Matrix.....: SO  
 Date Sampled....: 12/16/04 11:07    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4355053  
 Dilution Factor: 1  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	34	(25 - 115)
2-Fluorophenol	21	(11 - 116)
2,4,6-Tribromophenol	13 *	(35 - 116)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-112

TOTAL Metals

Lot-Sample #...: A4L170377-003

Matrix.....: SO

Date Sampled...: 12/16/04 11:07 Date Received...: 12/17/04

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	29.5	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1ECR1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-112

General Chemistry

Lot-Sample #....: A4L170377-003    Work Order #....: G1ECR    Matrix.....: SO  
Date Sampled....: 12/16/04 11:07    Date Received..: 12/17/04  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.0	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363261

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-113

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-004    Work Order #...: G1ECV1AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:19    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	59	(42 - 110)
2-Fluorobiphenyl	58	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	37	(25 - 115)
2-Fluorophenol	21	(11 - 116)
2,4,6-Tribromophenol	14 *	(35 - 116)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-113

TOTAL Metals

Lot-Sample #...: A4L170377-004

Matrix.....: SO

Date Sampled...: 12/16/04 11:19 Date Received...: 12/17/04

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	69.4	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1ECV1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-113

General Chemistry

Lot-Sample #....: A4L170377-004    Work Order #....: G1ECV    Matrix.....: SO  
Date Sampled....: 12/16/04 11:19    Date Received..: 12/17/04  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363261

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-114

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-005    Work Order #....: G1ECWLAD    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:31    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/28/04  
 Prep Batch #....: 4355053  
 Dilution Factor: 2  
 % Moisture.....: 13    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	3600	760	ug/kg
Benzo (a) pyrene	1600	760	ug/kg
Dibenz (a, h) anthracene	ND	760	ug/kg
Dibenzofuran	ND	760	ug/kg
Indeno (1, 2, 3-cd) pyrene	1100	760	ug/kg
4-Methylphenol	ND	760	ug/kg
Naphthalene	ND	760	ug/kg
Benzo (a) anthracene	2800	760	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	72 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	81 DIL	(25 - 115)
2-Fluorophenol	79 DIL	(11 - 116)
2,4,6-Tribromophenol	71 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-114

TOTAL Metals

Lot-Sample #...: A4L170377-005

Matrix.....: SO

Date Sampled...: 12/16/04 11:31 Date Received...: 12/17/04

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	129	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1ECW1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-114

General Chemistry

Lot-Sample #....: A4L170377-005    Work Order #....: G1ECW    Matrix.....: SO  
Date Sampled....: 12/16/04 11:31    Date Received..: 12/17/04  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.1	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363261

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-115

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-006    Work Order #...: G1ECK1AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:27    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 5  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	5900	1900	ug/kg
Benzo (a) pyrene	3500	1900	ug/kg
Dibenz (a, h) anthracene	ND	1900	ug/kg
Dibenzofuran	ND	1900	ug/kg
Indeno (1, 2, 3-cd) pyrene	1900	1900	ug/kg
4-Methylphenol	ND	1900	ug/kg
Naphthalene	ND	1900	ug/kg
Benzo (a) anthracene	6200	1900	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	45 DIL	(42 - 110)
2-Fluorobiphenyl	52 DIL	(43 - 110)
Terphenyl-d14	70 DIL	(37 - 137)
Phenol-d5	44 DIL	(25 - 115)
2-Fluorophenol	48 DIL	(11 - 116)
2,4,6-Tribromophenol	56 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-115

TOTAL Metals

Lot-Sample #...: A4L170377-006

Matrix.....: SO

Date Sampled...: 12/16/04 11:27 Date Received...: 12/17/04

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	54.2	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1ECX1AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-115

General Chemistry

Lot-Sample #...: A4L170377-006    Work Order #...: G1ECX    Matrix.....: SO  
Date Sampled...: 12/16/04 11:27    Date Received...: 12/17/04  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.7	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-116

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-007    Work Order #...: G1EC01AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 12:03    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/28/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 2  
 % Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	2100	750	ug/kg
Benzo (a) pyrene	1200	750	ug/kg
Dibenz (a, h) anthracene	ND	750	ug/kg
Dibenzofuran	ND	750	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	750	ug/kg
4-Methylphenol	ND	750	ug/kg
Naphthalene	ND	750	ug/kg
Benzo (a) anthracene	1700	750	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	76 DIL	(25 - 115)
2-Fluorophenol	68 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-116

TOTAL Metals

Lot-Sample #...: A4L170377-007

Matrix.....: SO

Date Sampled...: 12/16/04 12:03 Date Received...: 12/17/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	83.4	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC01AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-116

General Chemistry

Lot-Sample #...: A4L170377-007    Work Order #...: GLECO    Matrix.....: SO  
Date Sampled...: 12/16/04 12:03    Date Received...: 12/17/04  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.5	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-117

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-008 Work Order #...: G1EC11AD Matrix.....: SO  
 Date Sampled...: 12/16/04 11:58 Date Received...: 12/17/04  
 Prep Date.....: 12/20/04 Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1  
 % Moisture.....: 12 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	1600	380	ug/kg
Benzo (a) pyrene	690	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	600	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	430	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	76	(25 - 115)
2-Fluorophenol	69	(11 - 116)
2,4,6-Tribromophenol	56	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-117

TOTAL Metals

Lot-Sample #...: A4L170377-008

Matrix.....: SO

Date Sampled...: 12/16/04 11:58 Date Received...: 12/17/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	81.4	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC11AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-117

General Chemistry

Lot-Sample #...: A4L170377-008    Work Order #...: G1EC1    Matrix.....: SO  
Date Sampled...: 12/16/04 11:58    Date Received...: 12/17/04  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.5	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-118

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-009    Work Order #....: G1EC21AD    Matrix.....: SO  
 Date Sampled....: 12/16/04 11:36    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/28/04  
 Prep Batch #....: 4355053  
 Dilution Factor: 2  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	1700	740	ug/kg
Benzo (a) pyrene	930	740	ug/kg
Dibenz (a, h) anthracene	ND	740	ug/kg
Dibenzofuran	ND	740	ug/kg
Indeno (1, 2, 3-cd) pyrene	830	740	ug/kg
4-Methylphenol	ND	740	ug/kg
Napthalene	990	740	ug/kg
Benzo (a) anthracene	1600	740	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	57 DIL	(42 - 110)
2-Fluorobiphenyl	59 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	60 DIL	(25 - 115)
2-Fluorophenol	47 DIL	(11 - 116)
2,4,6-Tribromophenol	57 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-118

TOTAL Metals

Lot-Sample #...: A4L170377-009

Matrix.....: SO

Date Sampled...: 12/16/04 11:36 Date Received...: 12/17/04

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	545	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC21AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-118

General Chemistry

Lot-Sample #...: A4L170377-009    Work Order #...: G1EC2    Matrix.....: SO  
Date Sampled...: 12/16/04 11:36    Date Received...: 12/17/04  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.8	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-119

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-010    Work Order #...: GLEC31AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:41    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 2.5  
 % Moisture.....: 7.5    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	2900	890	ug/kg
Benzo (a) pyrene	1500	890	ug/kg
Dibenz (a, h) anthracene	ND	890	ug/kg
Dibenzofuran	ND	890	ug/kg
Indeno (1, 2, 3-cd) pyrene	960	890	ug/kg
4-Methylphenol	ND	890	ug/kg
Naphthalene	1500	890	ug/kg
Benzo (a) anthracene	ND	890	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
Terphenyl-d14	87 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	68 DIL	(11 - 116)
2,4,6-Tribromophenol	57 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-119

TOTAL Metals

Lot-Sample #...: A4L170377-010

Matrix.....: SO

Date Sampled...: 12/16/04 11:41 Date Received...: 12/17/04

% Moisture.....: 7.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	65.9	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC31AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-119

General Chemistry

Lot-Sample #...: A4L170377-010    Work Order #...: GLEC3    Matrix.....: SO  
Date Sampled...: 12/16/04 11:41    Date Received...: 12/17/04  
% Moisture.....: 7.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.5	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-120

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-011    Work Order #....: G1EC41AD    Matrix.....: SO  
 Date Sampled....: 12/16/04 11:45    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4355053  
 Dilution Factor: 2.5  
 % Moisture.....: 8.2    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	3000	900	ug/kg
Benzo (a) pyrene	1700	900	ug/kg
Dibenz (a, h) anthracene	ND	900	ug/kg
Dibenzofuran	ND	900	ug/kg
Indeno (1, 2, 3-cd) pyrene	1200	900	ug/kg
4-Methylphenol	ND	900	ug/kg
Naphthalene	2000	900	ug/kg
Benzo (a) anthracene	ND	900	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	61 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	53 DIL	(11 - 116)
2,4,6-Tribromophenol	54 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-120

TOTAL Metals

Lot-Sample #...: A4L170377-011

Matrix.....: SO

Date Sampled...: 12/16/04 11:45 Date Received...: 12/17/04

% Moisture.....: 8.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	31.8	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC41AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-120

General Chemistry

Lot-Sample #...: A4L170377-011    Work Order #...: G1EC4    Matrix.....: SO  
Date Sampled...: 12/16/04 11:45    Date Received...: 12/17/04  
% Moisture.....: 8.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.8	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-121

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-012    Work Order #...: G1EC51AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 11:54    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1  
 % Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
<b>Benzo (a) anthracene</b>	<b>760</b>	<b>380</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	(42 - 110)
2-Fluorobiphenyl	75	(43 - 110)
Terphenyl-d14	79	(37 - 137)
Phenol-d5	74	(25 - 115)
2-Fluorophenol	70	(11 - 116)
2,4,6-Tribromophenol	69	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-121

TOTAL Metals

Lot-Sample #...: A4L170377-012

Matrix.....: SO

Date Sampled...: 12/16/04 11:54 Date Received...: 12/17/04

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	11.9	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC51AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-121

General Chemistry

Lot-Sample #....: A4L170377-012    Work Order #....: G1EC5    Matrix.....: SO  
Date Sampled....: 12/16/04 11:54    Date Received..: 12/17/04  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-122

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-013    Work Order #...: G1EC61AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:03    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 4  
 % Moisture.....: 16    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	4500	1600	ug/kg
Benzo (a) pyrene	2600	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	4800	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	1600	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	19000 E	1600	ug/kg
Benzo (a) anthracene	4100	1600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	69 DIL	(43 - 110)
Terphenyl-d14	77 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	65 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Comestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-122

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-013    Work Order #...: G1EC62AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:03    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 01/04/05  
 Prep Batch #...: 4355053  
 Dilution Factor: 40  
 % Moisture.....: 16    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	16000	ug/kg
Benzo (a) pyrene	ND	16000	ug/kg
Dibenz (a, h) anthracene	ND	16000	ug/kg
Dibenzofuran	ND	16000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	16000	ug/kg
4-Methylphenol	ND	16000	ug/kg
<b>Naphthalene</b>	<b>46000</b>	<b>16000</b>	<b>ug/kg</b>
Benzo (a) anthracene	ND	16000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-122

TOTAL Metals

Lot-Sample #...: A4L170377-013

Matrix.....: SO

Date Sampled...: 12/16/04 13:03 Date Received...: 12/17/04

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	129	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1EC61AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-122

General Chemistry

Lot-Sample #....: A4L170377-013    Work Order #....: G1EC6    Matrix.....: SO  
Date Sampled....: 12/16/04 13:03    Date Received...: 12/17/04  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-123

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-014    Work Order #...: G1EC71AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:07    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 4  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	5400	1500	ug/kg
Benzo (a) pyrene	3100	1500	ug/kg
Dibenz (a, h) anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno (1, 2, 3-cd) pyrene	3900	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	16000 E	1500	ug/kg
Benzo (a) anthracene	1600	1500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	64 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	65 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-123

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-014    Work Order #...: G1EC72AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:07    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/29/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 20  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (a) pyrene	ND	7400	ug/kg
Dibenz (a,h) anthracene	ND	7400	ug/kg
Dibenzofuran	ND	7400	ug/kg
Indeno (1,2,3-cd) pyrene	ND	7400	ug/kg
4-Methylphenol	ND	7400	ug/kg
<b>Naphthalene</b>	<b>33000</b>	<b>7400</b>	<b>ug/kg</b>
Benzo (a) anthracene	ND	7400	ug/kg
Benzo (b) fluoranthene	ND	7400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67 DIL	(42 - 110)
2-Fluorobiphenyl	63 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
2-Fluorophenol	68 DIL	(11 - 116)
2,4,6-Tribromophenol	100 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-123

TOTAL Metals

Lot-Sample #...: A4L170377-014

Matrix.....: SO

Date Sampled...: 12/16/04 13:07 Date Received...: 12/17/04

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	196	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC71AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-123

General Chemistry

Lot-Sample #...: A4L170377-014    Work Order #...: G1EC7    Matrix.....: SO  
Date Sampled...: 12/16/04 13:07    Date Received...: 12/17/04  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.3	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-124

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-015    Work Order #....: G1EC81AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:12    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4355053  
 Dilution Factor: 4  
 % Moisture.....: 10    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo (b) fluoranthene	6600	1500	ug/kg
Benzo (a) pyrene	3700	1500	ug/kg
Dibenz (a, h) anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno (1, 2, 3-cd) pyrene	2400	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	2300	1500	ug/kg
Benzo (a) anthracene	4900	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	66 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	61 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-124

TOTAL Metals

Lot-Sample #...: A4L170377-015

Matrix.....: SO

Date Sampled...: 12/16/04 13:12 Date Received...: 12/17/04

% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	98.1	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC81AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-124

General Chemistry

Lot-Sample #...: A4L170377-015    Work Order #...: G1EC8    Matrix.....: SO  
Date Sampled...: 12/16/04 13:12    Date Received...: 12/17/04  
% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.8	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-125

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-016 Work Order #...: G1EC91AD Matrix.....: SO  
 Date Sampled...: 12/16/04 13:18 Date Received...: 12/17/04  
 Prep Date.....: 12/20/04 Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 6.66  
 % Moisture.....: 9.7 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	10000	2400	ug/kg
Benzo (a) pyrene	6300	2400	ug/kg
Dibenz (a, h) anthracene	ND	2400	ug/kg
Dibenzofuran	ND	2400	ug/kg
Indeno (1, 2, 3-cd) pyrene	3300	2400	ug/kg
4-Methylphenol	ND	2400	ug/kg
Naphthalene	ND	2400	ug/kg
Benzo (a) anthracene	9500	2400	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	60 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
Phenol-d5	60 DIL	(25 - 115)
2-Fluorophenol	53 DIL	(11 - 116)
2,4,6-Tribromophenol	61 DIL	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-125

TOTAL Metals

Lot-Sample #...: A4L170377-016

Matrix.....: SO

Date Sampled...: 12/16/04 13:18 Date Received...: 12/17/04

% Moisture.....: 9.7

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	43.8	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EC91AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-125

General Chemistry

Lot-Sample #...: A4L170377-016    Work Order #...: G1EC9    Matrix.....: SO  
Date Sampled...: 12/16/04 13:18    Date Received...: 12/17/04  
% Moisture.....: 9.7

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	90.3	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-126

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-017    Work Order #...: G1EDA1AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:23    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/28/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 2.5  
 % Moisture.....: 18    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	4100	1000	ug/kg
Benzo (a) pyrene	1800	1000	ug/kg
Dibenz (a, h) anthracene	ND	1000	ug/kg
Dibenzofuran	ND	1000	ug/kg
Indeno (1, 2, 3-cd) pyrene	1100	1000	ug/kg
4-Methylphenol	ND	1000	ug/kg
Naphthalene	ND	1000	ug/kg
Benzo (a) anthracene	3100	1000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	64 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	49 DIL	(25 - 115)
2-Fluorophenol	30 DIL	(11 - 116)
2,4,6-Tribromophenol	35 DIL	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-126

TOTAL Metals

Lot-Sample #...: A4L170377-017

Matrix.....: SO

Date Sampled...: 12/16/04 13:23 Date Received...: 12/17/04

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	28.7	1.2	mg/kg	SW846 6010B	12/21-01/03/05	GLEDALAC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-126

General Chemistry

Lot-Sample #...: A4L170377-017    Work Order #...: G1EDA    Matrix.....: SO  
Date Sampled...: 12/16/04 13:23    Date Received...: 12/17/04  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-127

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-018    Work Order #...: G1EDC1AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:30    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355054  
 Dilution Factor: 1  
 % Moisture.....: 19    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
<b>Benzo (b) fluoranthene</b>	<b>480</b>	<b>410</b>	<b>ug/kg</b>
Benzo (a) pyrene	ND	410	ug/kg
Dibenz (a, h) anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
<b>Benzo (a) anthracene</b>	<b>1000</b>	<b>410</b>	<b>ug/kg</b>

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	72	(37 - 137)
Phenol-d5	36	(25 - 115)
2-Fluorophenol	20	(11 - 116)
2,4,6-Tribromophenol	12 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-127

TOTAL Metals

Lot-Sample #...: A4L170377-018

Matrix.....: SO

Date Sampled...: 12/16/04 13:30 Date Received...: 12/17/04

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	178	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1EDC1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-127

General Chemistry

Lot-Sample #...: A4L170377-018    Work Order #...: GLEDG    Matrix.....: SO  
Date Sampled...: 12/16/04 13:30    Date Received...: 12/17/04  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.0	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-128

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-019    Work Order #....: G1EDF1AD    Matrix.....: SO  
 Date Sampled....: 12/16/04 13:34    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4355054  
 Dilution Factor: 2  
 % Moisture.....: 8.0    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	2700	720	ug/kg
Benzo (a) pyrene	1800	720	ug/kg
Dibenz (a, h) anthracene	ND	720	ug/kg
Dibenzofuran	ND	720	ug/kg
Indeno (1, 2, 3-cd) pyrene	1100	720	ug/kg
4-Methylphenol	ND	720	ug/kg
Naphthalene	ND	720	ug/kg
Benzo (a) anthracene	2100	720	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	65 DIL	(42 - 110)
2-Fluorobiphenyl	73 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	61 DIL	(11 - 116)
2,4,6-Tribromophenol	69 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-128

TOTAL Metals

Lot-Sample #...: A4L170377-019

Matrix.....: SO

Date Sampled...: 12/16/04 13:34 Date Received...: 12/17/04

% Moisture.....: 8.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	31.9	1.1	mg/kg	SW846 6010B	12/21-01/03/05	G1EDF1AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-128

General Chemistry

Lot-Sample #...: A4L170377-019  
Date Sampled...: 12/16/04 13:34  
% Moisture.....: 8.0

Work Order #...: G1EDF  
Date Received...: 12/17/04

Matrix.....: SO

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.0	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-129

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-020    Work Order #...: G1EDH1AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:40    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #...: 4355054  
 Dilution Factor: 4  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	4800	1600	ug/kg
Benzo (a) pyrene	3500	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	5600	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	2100	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	29000 E	1600	ug/kg
Benzo (a) anthracene	4300	1600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	68 DIL	(42 - 110)
2-Fluorobiphenyl	90 DIL	(43 - 110)
Terphenyl-d14	84 DIL	(37 - 137)
Phenol-d5	70 DIL	(25 - 115)
2-Fluorophenol	59 DIL	(11 - 116)
2,4,6-Tribromophenol	81 DIL	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.  
 E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-129

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-020 Work Order #...: G1EDH2AD Matrix.....: SO  
 Date Sampled...: 12/16/04 13:40 Date Received...: 12/17/04  
 Prep Date.....: 12/20/04 Analysis Date...: 12/28/04  
 Prep Batch #...: 4355054  
 Dilution Factor: 25  
 % Moisture.....: 15 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	9700	ug/kg
Benzo (a) pyrene	ND	9700	ug/kg
Dibenz (a, h) anthracene	ND	9700	ug/kg
Dibenzofuran	ND	9700	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	9700	ug/kg
4-Methylphenol	ND	9700	ug/kg
<b>Naphthalene</b>	<b>35000</b>	<b>9700</b>	<b>ug/kg</b>
Benzo (a) anthracene	ND	9700	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-129

TOTAL Metals

Lot-Sample #...: A4L170377-020

Matrix.....: SO

Date Sampled...: 12/16/04 13:40 Date Received...: 12/17/04

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 4355371						
Arsenic	596	1.2	mg/kg	SW846 6010B	12/21-01/03/05	G1EDH1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-129

General Chemistry

Lot-Sample #...: A4L170377-020    Work Order #...: G1EDH    Matrix.....: SO  
Date Sampled...: 12/16/04 13:40    Date Received...: 12/17/04  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-130

GC/MS Semivolatiles

Lot-Sample #....: A4L170377-021    Work Order #....: G1EDQ1AD    Matrix.....: SO  
 Date Sampled....: 12/16/04 13:46    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 12/22/04  
 Prep Batch #....: 4355054  
 Dilution Factor: 10  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo (b) fluoranthene</b>	<b>6800</b>	<b>3700</b>	<b>ug/kg</b>
Benzo (a) pyrene	ND	3700	ug/kg
Dibenz (a, h) anthracene	ND	3700	ug/kg
<b>Dibenzofuran</b>	<b>13000</b>	<b>3700</b>	<b>ug/kg</b>
Indeno (1, 2, 3-cd) pyrene	ND	3700	ug/kg
4-Methylphenol	ND	3700	ug/kg
<b>Naphthalene</b>	<b>84000 E</b>	<b>3700</b>	<b>ug/kg</b>
<b>Benzo (a) anthracene</b>	<b>6500</b>	<b>3700</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	68 DIL	(42 - 110)
2-Fluorobiphenyl	81 DIL	(43 - 110)
Terphenyl-d14	87 DIL	(37 - 137)
Phenol-d5	57 DIL	(25 - 115)
2-Fluorophenol	57 DIL	(11 - 116)
2, 4, 6-Tribromophenol	87 DIL	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-130

GC/MS Semivolatiles

Lot-Sample #...: A4L170377-021    Work Order #...: G1EDQ2AD    Matrix.....: SO  
 Date Sampled...: 12/16/04 13:46    Date Received...: 12/17/04  
 Prep Date.....: 12/20/04    Analysis Date...: 01/06/05  
 Prep Batch #...: 4355054  
 Dilution Factor: 400  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	150000	ug/kg
Benzo (a) pyrene	ND	150000	ug/kg
Dibenz (a, h) anthracene	ND	150000	ug/kg
Dibenzofuran	ND	150000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	150000	ug/kg
4-Methylphenol	ND	150000	ug/kg
<b>Naphthalene</b>	<b>490000</b>	<b>150000</b>	<b>ug/kg</b>
Benzo (a) anthracene	ND	150000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-130

TOTAL Metals

Lot-Sample #...: A4L170377-021

Matrix.....: SO

Date Sampled...: 12/16/04 13:46 Date Received...: 12/17/04

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 4355027						
Arsenic	97.1	1.1	mg/kg	SW846 6010B	12/20-12/22/04	G1EDQ1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-121604-TL-130

General Chemistry

Lot-Sample #...: A4L170377-021    Work Order #...: G1EDQ    Matrix.....: SO  
Date Sampled...: 12/16/04 13:46    Date Received...: 12/17/04  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.0	10.0	%	MCAWW 160.3 MOD	12/28-12/29/04	4363264

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377  
 MB Lot-Sample #: A4L200000-053

Work Order #...: G1G101AA

Matrix.....: SOLID

Prep Date.....: 12/20/04

Prep Batch #...: 4355053

Analysis Date...: 12/22/04  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzo(a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	75	(25 - 115)
2-Fluorophenol	75	(11 - 116)
2,4,6-Tribromophenol	64	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377      Work Order #...: G1G111AA      Matrix.....: SOLID  
 MB Lot-Sample #: A4L200000-054  
 Analysis Date...: 12/22/04      Prep Date.....: 12/20/04  
 Dilution Factor: 1      Prep Batch #...: 4355054

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzo(a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	61	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	83	(37 - 137)
Phenol-d5	72	(25 - 115)
2-Fluorophenol	69	(11 - 116)
2,4,6-Tribromophenol	71	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377  
 MB Lot-Sample #: A4L280000-412

Work Order #...: G1V7F1AA

Matrix.....: SOLID

Analysis Date...: 12/31/04  
 Dilution Factor: 1

Prep Date.....: 12/28/04

Prep Batch #...: 4363412

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	(42 - 110)
2-Fluorobiphenyl	75	(43 - 110)
Terphenyl-d14	90	(37 - 137)
Phenol-d5	72	(25 - 115)
2-Fluorophenol	66	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A4L170377

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A4L200000-027				Prep Batch #...: 4355027		
Arsenic	ND	1.0	mg/kg	SW846 6010B	12/20-12/22/04	G1G0Q1AC
		Dilution Factor: 1				

MB Lot-Sample #: A4L200000-371				Prep Batch #...: 4355371		
Arsenic	ND	1.0	mg/kg	SW846 6010B	12/21-01/03/05	G1HW61AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A4L170377

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G1VNR1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A4L280000-261 12/28-12/29/04	4363261
		Dilution Factor: 1				
Percent Solids	ND	Work Order #: G1VN91AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A4L280000-264 12/28-12/29/04	4363264
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L170377      Work Order #...: G1G101AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L200000-053  
 Prep Date.....: 12/20/04      Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,2,4-Trichloro-benzene</b>	<b>74</b>	<b>(45 - 110)</b>	<b>SW846 8270C</b>
<b>Acenaphthene</b>	<b>76</b>	<b>(44 - 110)</b>	<b>SW846 8270C</b>
<b>2,4-Dinitrotoluene</b>	<b>87</b>	<b>(48 - 111)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>84</b>	<b>(42 - 122)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl-amine</b>	<b>87</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>1,4-Dichlorobenzene</b>	<b>79</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>Pentachlorophenol</b>	<b>70</b>	<b>(10 - 123)</b>	<b>SW846 8270C</b>
<b>Phenol</b>	<b>75</b>	<b>(35 - 110)</b>	<b>SW846 8270C</b>
<b>2-Chlorophenol</b>	<b>73</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Chloro-3-methylphenol</b>	<b>75</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Nitrophenol</b>	<b>73</b>	<b>(22 - 128)</b>	<b>SW846 8270C</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	83	(42 - 110)
2-Fluorobiphenyl	78	(43 - 110)
Terphenyl-d14	89	(37 - 137)
Phenol-d5	86	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2,4,6-Tribromophenol	79	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L170377      Work Order #...: G1G111AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L200000-054      G1G111AD-LCSD  
 Prep Date.....: 12/20/04      Analysis Date...: 12/22/04  
 Prep Batch #...: 4355054  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichlorobenzene	78	(45 - 110)			SW846 8270C
	73	(45 - 110)	7.2	(0-54)	SW846 8270C
Acenaphthene	78	(44 - 110)			SW846 8270C
	79	(44 - 110)	0.35	(0-44)	SW846 8270C
2,4-Dinitrotoluene	85	(48 - 111)			SW846 8270C
	75	(48 - 111)	13	(0-45)	SW846 8270C
Pyrene	78	(42 - 122)			SW846 8270C
	88	(42 - 122)	11	(0-66)	SW846 8270C
N-Nitrosodi-n-propylamine	62	(38 - 110)			SW846 8270C
	74	(38 - 110)	18	(0-50)	SW846 8270C
1,4-Dichlorobenzene	69	(38 - 110)			SW846 8270C
	79	(38 - 110)	13	(0-59)	SW846 8270C
Pentachlorophenol	70	(10 - 123)			SW846 8270C
	81	(10 - 123)	14	(0-87)	SW846 8270C
Phenol	56	(35 - 110)			SW846 8270C
	68	(35 - 110)	19	(0-50)	SW846 8270C
2-Chlorophenol	56	(43 - 110)			SW846 8270C
	70	(43 - 110)	23	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	71	(43 - 110)			SW846 8270C
	70	(43 - 110)	0.91	(0-55)	SW846 8270C
4-Nitrophenol	64	(22 - 128)			SW846 8270C
	67	(22 - 128)	3.7	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	69	(42 - 110)
	65	(42 - 110)
2-Fluorobiphenyl	79	(43 - 110)
	78	(43 - 110)
Terphenyl-d14	79	(37 - 137)
	87	(37 - 137)
Phenol-d5	62	(25 - 115)
	71	(25 - 115)
2-Fluorophenol	59	(11 - 116)
	70	(11 - 116)
2,4,6-Tribromophenol	79	(35 - 116)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377      Work Order #...: G1G111AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A4L200000-054      G1G111AD-LCSD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
	82	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A4L170377      Work Order #...: G1V7F1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A4L280000-412      G1V7F1AD-LCSD  
 Prep Date.....: 12/28/04      Analysis Date...: 12/31/04  
 Prep Batch #...: 4363412  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichlorobenzene	79	(45 - 110)			SW846 8270C
	73	(45 - 110)	8.2	(0-54)	SW846 8270C
Acenaphthene	80	(44 - 110)			SW846 8270C
	64	(44 - 110)	23	(0-44)	SW846 8270C
2,4-Dinitrotoluene	74	(48 - 111)			SW846 8270C
	69	(48 - 111)	7.6	(0-45)	SW846 8270C
Pyrene	82	(42 - 122)			SW846 8270C
	68	(42 - 122)	18	(0-66)	SW846 8270C
N-Nitrosodi-n-propylamine	95	(38 - 110)			SW846 8270C
	79	(38 - 110)	18	(0-50)	SW846 8270C
1,4-Dichlorobenzene	102	(38 - 110)			SW846 8270C
	91	(38 - 110)	12	(0-59)	SW846 8270C
Pentachlorophenol	65	(10 - 123)			SW846 8270C
	49	(10 - 123)	28	(0-87)	SW846 8270C
Phenol	84	(35 - 110)			SW846 8270C
	70	(35 - 110)	18	(0-50)	SW846 8270C
2-Chlorophenol	81	(43 - 110)			SW846 8270C
	70	(43 - 110)	14	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	78	(43 - 110)			SW846 8270C
	65	(43 - 110)	17	(0-55)	SW846 8270C
4-Nitrophenol	68	(22 - 128)			SW846 8270C
	53	(22 - 128)	24	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	80	(42 - 110)
	79	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
	75	(43 - 110)
Terphenyl-d14	84	(37 - 137)
	83	(37 - 137)
Phenol-d5	91	(25 - 115)
	87	(25 - 115)
2-Fluorophenol	90	(11 - 116)
	80	(11 - 116)
2,4,6-Tribromophenol	73	(35 - 116)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377      Work Order #...: G1V7F1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A4L280000-412      G1V7F1AD-LCSD

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
	73	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A4L170377

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-----------------------------	----------------------------	---------------	---------------------------------------	---------------------

LCS Lot-Sample#: A4L200000-027 Prep Batch #...: 4355027

Arsenic	85	(80 - 120)	SW846 6010B	12/20-12/22/04	G1G0Q1A6
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Dilution Factor: 1

LCS Lot-Sample#: A4L200000-371 Prep Batch #...: 4355371

Arsenic	92	(80 - 120)	SW846 6010B	12/21-01/03/05	G1HW61AC
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Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377      Work Order #...: G1ECG1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A4L170377-001      G1ECG1AH-MSD  
 Date Sampled...: 12/16/04 11:15      Date Received...: 12/17/04  
 Prep Date.....: 12/20/04      Analysis Date...: 12/22/04  
 Prep Batch #...: 4355053  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	57	(16 - 121)			SW846 8270C
	58	(16 - 121)	2.0	(0-54)	SW846 8270C
Acenaphthene	66	(13 - 133)			SW846 8270C
	71	(13 - 133)	7.0	(0-44)	SW846 8270C
2,4-Dinitrotoluene	79	(10 - 171)			SW846 8270C
	76	(10 - 171)	3.8	(0-45)	SW846 8270C
Pyrene	67	(10 - 218)			SW846 8270C
	71	(10 - 218)	5.2	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	69	(12 - 128)			SW846 8270C
	72	(12 - 128)	5.4	(0-50)	SW846 8270C
1,4-Dichlorobenzene	59	(18 - 110)			SW846 8270C
	65	(18 - 110)	9.4	(0-59)	SW846 8270C
Pentachlorophenol	52	(10 - 144)			SW846 8270C
	44	(10 - 144)	16	(0-87)	SW846 8270C
Phenol	49	(10 - 148)			SW846 8270C
	55	(10 - 148)	13	(0-50)	SW846 8270C
2-Chlorophenol	45	(17 - 116)			SW846 8270C
	50	(17 - 116)	12	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	57	(17 - 128)			SW846 8270C
	60	(17 - 128)	6.0	(0-55)	SW846 8270C
4-Nitrophenol	56	(10 - 148)			SW846 8270C
	42	(10 - 148)	28	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	61	(42 - 110)
	64	(42 - 110)
2-Fluorobiphenyl	56	(43 - 110)
	65	(43 - 110)
Terphenyl-d14	77	(37 - 137)
	78	(37 - 137)
Phenol-d5	42	(25 - 115)
	47	(25 - 115)
2-Fluorophenol	28	(11 - 116)
	32	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A4L170377      Work Order #...: G1ECG1AG-MS      Matrix.....: SO  
MS Lot-Sample #: A4L170377-001      G1ECG1AH-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	29 *	(35 - 116)
	29 *	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

\* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A4L170377

Matrix.....: SOLID

Date Sampled...: 12/16/04 11:16 Date Received...: 12/17/04

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>RPD</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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MS Lot-Sample #: A4L170106-001 Prep Batch #...: 4355027

% Moisture.....: 5.9

Arsenic	84	(75 - 125)		SW846 6010B	12/20-12/22/04	G1AW41C2
	81	(75 - 125)	2.5 (0-20)	SW846 6010B	12/20-12/22/04	G1AW41C3

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A4L170377

Matrix.....: SO

Date Sampled...: 12/16/04 11:15 Date Received...: 12/17/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A4L170377-001 Prep Batch #...: 4355371

Arsenic	85	(75 - 125)			SW846 6010B	12/21-01/03/05	G1ECG1AD
	92	(75 - 125)	7.2	(0-20)	SW846 6010B	12/21-01/03/05	G1ECG1AE

Dilution Factor: 1

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.



**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A4L170377

Work Order #...: G1DWJ-SMP  
G1DWJ-DUP

Matrix.....: SOLID

Date Sampled...: 12/15/04 16:36 Date Received...: 12/17/04

% Moisture.....: 16

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	84.3	84.2	%	0.11	(0-20)	SD Lot-Sample #: A4L170289-053 MCAWW 160.3 MOD	12/28-12/29/04	4363261
Dilution Factor: 1								





**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A4L170377

Work Order #...: G1ERG-SMP  
G1ERG-DUP

Matrix.....: SOLID

Date Sampled...: 12/15/04 14:00 Date Received...: 12/17/04

% Moisture.....: 83

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids					SD Lot-Sample #: A4L170443-001		
17.3	15.6	%	10	(0-20)	MCAWW 160.3 MOD	12/28-12/29/04	4363264
		Dilution Factor: 1					



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

**SHIPPED TO**  
(Laboratory Name):

STL - North Canton

**CHAIN-OF-CUSTODY RECORD**

**REFERENCE NUMBER:**  
19023-84

**PROJECT NAME:**  
Waukegan Canal

**SAMPLER'S SIGNATURE:** Jim Leo **PRINTED NAME:** Jim Leo

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
	12-16	1115	S-121604-TL-110	Soil	1	Total Arsenic Site SVOC	
	12-16	1110	S-121604-TL-111	Soil	1		
	12-16	1107	S-121604-TL-112	Soil	1		
	12-16	1119	S-121604-TL-113	Soil	1		
	12-16	1131	S-121604-TL-114	Soil	1		
	12-16	1127	S-121604-TL-115	Soil	1		
	12-16	1203	S-121604-TL-116	Soil	1		
	12-16	1158	S-121604-TL-117	Soil	1		
	12-16	1136	S-121604-TL-118	Soil	1		
	12-16	1141	S-121604-TL-119	Soil	1		
	12-16	1145	S-121604-TL-120	Soil	1		
	12-16	1154	S-121604-TL-121	Soil	1		
	12-16	1303	S-121604-TL-122	Soil	1		
	12-16	1307	S-121604-TL-123	Soil	1		
	12-16	1312	S-121604-TL-124	Diat	1		
<b>TOTAL NUMBER OF CONTAINERS</b>					15		

RELINQUISHED BY: Jim Leo

RECEIVED BY: [Signature]

DATE: 12-16-04

TIME: 10:30

RELINQUISHED BY: [Signature]

RECEIVED BY: [Signature]

DATE: [ ]

TIME: [ ]

RELINQUISHED BY: [ ]

RECEIVED BY: [ ]

DATE: [ ]

TIME: [ ]

**METHOD OF SHIPMENT:**

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Yellow - Receiving Laboratory Copy

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**SAMPLE TEAM:** Leo

**RECEIVED FOR LABORATORY BY:** [Signature]

DATE: [ ] TIME: [ ]

12196



**STL Cooler Receipt Form/Narrative**

Lot Number: A4L170377

**North Canton Facility**

Client: Conestoga Rivers  
Cooler Received on: 12/17/04

Project: \_\_\_\_\_  
Opened on: 12/17/04

Quote#: \_\_\_\_\_  
by: Diana Miller  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
STL Cooler No# 3329 Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: Both
  6. Cooler temperature upon receipt 4.6 °C (see back of form for multiple coolers/temp)  
METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

**WAUKEGAN GAS & COKE PLANT**

**Lot #: A5A050248**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**January 19, 2005**

# **CASE NARRATIVE**

A5A050248

The following report contains the analytical results for sixteen solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Gas & Coke Plant Site, project number 019023-84. The samples were received January 5, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 13, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.4°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Samples S-010405-PP-131, S-010405-PP-134, S-010405-PP-136, and S-010405-PP-140 each had up to one surrogate recovery per fraction outside acceptance limits. However, since the recoveries were greater than 10% and all associated QC met criteria, no corrective action was taken.

Two analyses were used to report samples S-010405-PP-132, S-010405-PP-133, and S-010405-PP-135 due to high analyte concentrations.

Samples S-010405-PP-007 and S-010405-PP-137 had elevated reporting limits due to matrix interferences.

### **METALS**

The matrix spike/matrix spike duplicate(s) for S-010405-PP-008 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

\* for analyses run on TJA Trace ICP only

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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### **STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (#E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

*Revision 10, 10/12/04  
n:\qaqc\narrativ\stl.doc*

# EXECUTIVE SUMMARY - Detection Highlights

A5A050248

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-010405-PP-008 01/04/05 12:10 002</b>				
Arsenic	183	1.1	mg/kg	SW846 6010B
Naphthalene	28000	7500	ug/kg	SW846 8270C
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-004 01/04/05 14:05 003</b>				
Arsenic	60.6	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3300	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	2200	1600	ug/kg	SW846 8270C
Naphthalene	1700	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	3000	1600	ug/kg	SW846 8270C
Percent Solids	84.2	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-131 01/04/05 13:05 004</b>				
Arsenic	65.3	1.3	mg/kg	SW846 6010B
Percent Solids	80.0	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-132 01/04/05 13:08 005</b>				
Arsenic	175	2.1	mg/kg	SW846 6010B
Naphthalene	13000000	430000	ug/kg	SW846 8270C
	Qualifiers: E			
Naphthalene	34000000	17000000	ug/kg	SW846 8270C
Percent Solids	48.0	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-133 01/04/05 13:11 006</b>				
Arsenic	373	1.2	mg/kg	SW846 6010B
Naphthalene	5700 E	400	ug/kg	SW846 8270C
Naphthalene	4600	2000	ug/kg	SW846 8270C
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-134 01/04/05 13:15 007</b>				
Arsenic	226	1.3	mg/kg	SW846 6010B
Percent Solids	77.3	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-135 01/04/05 13:18 008</b>				
Arsenic	343	1.2	mg/kg	SW846 6010B
Naphthalene	2000000 E	160000	ug/kg	SW846 8270C
Naphthalene	2100000	1000000	ug/kg	SW846 8270C

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

ASA050248

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-010405-PP-135 01/04/05 13:18 008</b>				
Percent Solids	81.6	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-136 01/04/05 13:22 009</b>				
Arsenic	544	1.2	mg/kg	SW846 6010B
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-137 01/04/05 13:25 010</b>				
Arsenic	335	1.1	mg/kg	SW846 6010B
Percent Solids	94.7	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-138 01/04/05 13:30 011</b>				
Arsenic	78.9	1.1	mg/kg	SW846 6010B
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-139 01/04/05 13:33 012</b>				
Arsenic	31.6	1.1	mg/kg	SW846 6010B
Percent Solids	91.6	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-140 01/04/05 13:37 013</b>				
Arsenic	87.1	1.2	mg/kg	SW846 6010B
Benzo(b) fluoranthene	700	400	ug/kg	SW846 8270C
Benzo(a)pyrene	430	400	ug/kg	SW846 8270C
Benzo(a)anthracene	570	400	ug/kg	SW846 8270C
Percent Solids	83.2	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-141 01/04/05 13:40 014</b>				
Arsenic	23.9	1.2	mg/kg	SW846 6010B
Benzo(b) fluoranthene	3900	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	2500	1600	ug/kg	SW846 8270C
Naphthalene	1800	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	2800	1600	ug/kg	SW846 8270C
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5A050248

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-010405-PP-142 01/04/05 13:43 015</b>				
Arsenic	11.3	1.2	mg/kg	SW846 6010B
Benzo (b) fluoranthene	37000	9600	ug/kg	SW846 8270C
Benzo (a) pyrene	26000	9600	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	14000	9600	ug/kg	SW846 8270C
Benzo (a) anthracene	26000	9600	ug/kg	SW846 8270C
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD
<b>S-010405-PP-143 01/04/05 13:46 016</b>				
Arsenic	34.4	1.3	mg/kg	SW846 6010B
Benzo (b) fluoranthene	5500	2100	ug/kg	SW846 8270C
Benzo (a) pyrene	4100	2100	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	2100	2100	ug/kg	SW846 8270C
Naphthalene	3300	2100	ug/kg	SW846 8270C
Benzo (a) anthracene	5000	2100	ug/kg	SW846 8270C
Percent Solids	78.4	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5A050248

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5A050248

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G156L	001	S-010405-PP-007	01/04/05	12:15
G157T	002	S-010405-PP-008	01/04/05	12:10
G158A	003	S-010405-PP-004	01/04/05	14:05
G158G	004	S-010405-PP-131	01/04/05	13:05
G158T	005	S-010405-PP-132	01/04/05	13:08
G158V	006	S-010405-PP-133	01/04/05	13:11
G158W	007	S-010405-PP-134	01/04/05	13:15
G1581	008	S-010405-PP-135	01/04/05	13:18
G1584	009	S-010405-PP-136	01/04/05	13:22
G1587	010	S-010405-PP-137	01/04/05	13:25
G159E	011	S-010405-PP-138	01/04/05	13:30
G159F	012	S-010405-PP-139	01/04/05	13:33
G159H	013	S-010405-PP-140	01/04/05	13:37
G159J	014	S-010405-PP-141	01/04/05	13:40
G159K	015	S-010405-PP-142	01/04/05	13:43
G159L	016	S-010405-PP-143	01/04/05	13:46

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-007

TCLP GC/MS Volatiles

Lot-Sample #...: A5A050248-001 Work Order #...: G156L1AA Matrix.....: SO  
 Date Sampled...: 01/04/05 12:15 Date Received...: 01/05/05  
 Leach Date.....: 01/06/05 Prep Date.....: 01/07/05 Analysis Date...: 01/10/05  
 Leach Batch #...: P500702 Prep Batch #...: 5007348  
 Dilution Factor: 10  
 % Moisture.....: Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.25	mg/L
Carbon tetrachloride	ND	0.25	mg/L
Chlorobenzene	ND	0.25	mg/L
Chloroform	ND	0.25	mg/L
1,2-Dichloroethane	ND	0.25	mg/L
1,1-Dichloroethylene	ND	0.70	mg/L
Methyl ethyl ketone	ND	0.50	mg/L
Tetrachloroethylene	ND	0.70	mg/L
Trichloroethylene	ND	0.50	mg/L
Vinyl chloride	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(86 - 125)
1,2-Dichloroethane-d4	90	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	96	(84 - 125)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-007

TCLP GC/MS Semivolatiles

Lot-Sample #....: A5A050248-001    Work Order #....: G156L2AH    Matrix.....: SO  
 Date Sampled...: 01/04/05 12:15    Date Received...: 01/05/05  
 Leach Date.....: 01/06/05    Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P500701    Prep Batch #....: 5011308  
 Dilution Factor: 4  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.20	mg/L
m-Cresol & p-Cresol	ND	0.40	mg/L
1,4-Dichlorobenzene	ND	0.20	mg/L
2,4-Dinitrotoluene	ND	0.20	mg/L
Hexachlorobenzene	ND	0.20	mg/L
Hexachlorobutadiene	ND	0.20	mg/L
Hexachloroethane	ND	0.20	mg/L
Nitrobenzene	ND	0.20	mg/L
Pentachlorophenol	ND	0.40	mg/L
Pyridine	ND	0.40	mg/L
2,4,5-Trichloro-phenol	ND	1.0	mg/L
2,4,6-Trichloro-phenol	ND	0.20	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71 DIL	(32 - 112)
2-Fluorobiphenyl	61 DIL	(30 - 110)
Terphenyl-d14	80 DIL	(10 - 144)
Phenol-d5	41 DIL	(10 - 113)
2-Fluorophenol	36 DIL	(13 - 110)
2,4,6-Tribromophenol	36 DIL	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-007

TCLP Metals

Lot-Sample #...: A5A050248-001

Matrix.....: SO

Date Sampled...: 01/04/05 12:15 Date Received...: 01/05/05

Leach Date.....: 01/06/05 Leach Batch #...: P500701

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5010020						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G156L1AL
		Dilution Factor: 1				

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

TCLP GC/MS Volatiles

Lot-Sample #...: A5A050248-002 Work Order #...: G157T1AD Matrix.....: SO  
 Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05  
 Leach Date.....: 01/06/05 Prep Date.....: 01/07/05 Analysis Date...: 01/07/05  
 Leach Batch #...: P500702 Prep Batch #...: 5007348  
 Dilution Factor: 1  
 † Moisture.....: 12 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(86 - 125)
1,2-Dichloroethane-d4	90	(80 - 122)
Toluene-d8	98	(90 - 122)
4-Bromofluorobenzene	91	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

GC/MS Semivolatiles

Lot-Sample #...: ASA050248-002 Work Order #...: G157T1AH Matrix.....: SO  
 Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/08/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 20  
 % Moisture.....: 12 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	7500	ug/kg
Benzo (a) pyrene	ND	7500	ug/kg
Dibenz (a, h) anthracene	ND	7500	ug/kg
Dibenzofuran	ND	7500	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	7500	ug/kg
4-Methylphenol	ND	7500	ug/kg
Naphthalene	28000	7500	ug/kg
Benzo (a) anthracene	ND	7500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	55 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	61 DIL	(37 - 137)
Phenol-d5	53 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A050248-002 Work Order #...: G157T2AF Matrix.....: SO  
 Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05  
 Leach Date.....: 01/06/05 Prep Date.....: 01/11/05 Analysis Date...: 01/12/05  
 Leach Batch #...: P500701 Prep Batch #...: 5011308  
 Dilution Factor: 1  
 % Moisture.....: 12 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(32 - 112)
2-Fluorobiphenyl	60	(30 - 110)
Terphenyl-d14	79	(10 - 144)
Phenol-d5	31	(10 - 113)
2-Fluorophenol	26	(13 - 110)
2,4,6-Tribromophenol	28	(21 - 122)

**NOTE (S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

TOTAL Metals

Lot-Sample #...: A5A050248-002

Matrix.....: SO

Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	183	1.1	mg/kg	SW846 6010B	01/06-01/07/05	G157T1AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

TCLP Metals

Lot-Sample #...: A5A050248-002

Matrix.....: SO

Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05

Leach Date.....: 01/06/05 Leach Batch #...: P500701

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS			
Prep Batch #...: 5010020						
Barium	ND	10.0	mg/L	SW846 6010B	01/10-01/11/05	G157T1AK
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	01/10-01/11/05	G157T1AL
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G157T1AM
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G157T1AN
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	01/10-01/11/05	G157T1AP
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G157T1AQ
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G157T1AJ
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	01/10/05	G157T1AR
		Dilution Factor: 1				

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-008

General Chemistry

Lot-Sample #...: A5A050248-002    Work Order #...: G157T    Matrix.....: SO  
Date Sampled...: 01/04/05 12:10    Date Received...: 01/05/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-004

TCLP GC/MS Volatiles

Lot-Sample #...: ASA050248-003 Work Order #...: G158A1AD Matrix.....: SO  
 Date Sampled...: 01/04/05 14:05 Date Received...: 01/05/05  
 Leach Date.....: 01/06/05 Prep Date.....: 01/07/05 Analysis Date...: 01/07/05  
 Leach Batch #...: P500702 Prep Batch #...: 5007348  
 Dilution Factor: 1  
 % Moisture.....: 16 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(86 - 125)
1,2-Dichloroethane-d4	91	(80 - 122)
Toluene-d8	98	(90 - 122)
4-Bromofluorobenzene	90	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-004

GC/MS Semivolatiles

Lot-Sample #...: A5A050248-003 Work Order #...: G158A1AH Matrix.....: SO  
 Date Sampled...: 01/04/05 14:05 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/08/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 4  
 ‡ Moisture.....: 16 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	3300	1600	ug/kg
Benzo (a) pyrene	2200	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	1700	1600	ug/kg
Benzo (a) anthracene	3000	1600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	68 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	66 DIL	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
2-Fluorophenol	75 DIL	(11 - 116)
2,4,6-Tribromophenol	49 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-004

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A050248-003    Work Order #...: G158A2AF    Matrix.....: SO  
 Date Sampled...: 01/04/05 14:05    Date Received...: 01/05/05  
 Leach Date.....: 01/06/05    Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P500701    Prep Batch #...: 5011308  
 Dilution Factor: 1  
 % Moisture.....: 16    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72	(32 - 112)
2-Fluorobiphenyl	65	(30 - 110)
Terphenyl-d14	86	(10 - 144)
Phenol-d5	26	(10 - 113)
2-Fluorophenol	23	(13 - 110)
2,4,6-Tribromophenol	26	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-004

TOTAL Metals

Lot-Sample #...: A5A050248-003

Matrix.....: SO

Date Sampled...: 01/04/05 14:05 Date Received...: 01/05/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	60.6	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G158A1AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: S-010405-PP-004**

**TCLP Metals**

**Lot-Sample #...: A5A050248-003**

**Matrix.....: SO**

**Date Sampled...: 01/04/05 14:05    Date Received...: 01/05/05**

**Leach Date.....: 01/06/05            Leach Batch #...: P500701**

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>Prep Batch #...: 5010020</b>						
Barium	ND	10.0	mg/L	SW846 6010B	01/10-01/11/05	G158A1AK
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	01/10-01/11/05	G158A1AL
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G158A1AM
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G158A1AN
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	01/10-01/11/05	G158A1AP
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G158A1AQ
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G158A1AJ
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	01/10/05	G158A1AR
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-004

General Chemistry

Lot-Sample #...: A5A050248-003    Work Order #...: G158A    Matrix.....: SO  
Date Sampled...: 01/04/05 14:05    Date Received...: 01/05/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.2	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-131

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-004 Work Order #....: G158G1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:05 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 20 Method.....: SW846.8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	410	ug/kg
Benzo(a) pyrene	ND	410	ug/kg
Dibenz(a,h) anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd) pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
Benzo(a) anthracene	ND	410	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	71	(43 - 110)
Terphenyl-d14	80	(37 - 137)
Phenol-d5	57	(25 - 115)
2-Fluorophenol	40	(11 - 116)
2,4,6-Tribromophenol	20 *	(35 - 116)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-131

TOTAL Metals

Lot-Sample #...: A5A050248-004

Matrix.....: SO

Date Sampled...: 01/04/05 13:05 Date Received...: 01/05/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	65.3	1.3	mg/kg	SW846 6010B	01/06-01/07/05	G158G1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-131

General Chemistry

Lot-Sample #...: ASA050248-004    Work Order #...: G158G    Matrix.....: SO  
Date Sampled...: 01/04/05 13:05    Date Received...: 01/05/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.0	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-132

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-005 Work Order #....: G158T1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:08 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 625  
 % Moisture.....: 52 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(b) fluoranthene	ND	430000	ug/kg
Benzo(a) pyrene	ND	430000	ug/kg
Dibenz(a,h) anthracene	ND	430000	ug/kg
Dibenzofuran	ND	430000	ug/kg
Indeno(1,2,3-cd) pyrene	ND	430000	ug/kg
4-Methylphenol	ND	430000	ug/kg
Naphthalene	13000000 E	430000	ug/kg
Benzo(a) anthracene	ND	430000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-132

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-005    Work Order #....: G158T2AD    Matrix.....: SO  
 Date Sampled...: 01/04/05 13:08    Date Received...: 01/05/05  
 Prep Date.....: 01/05/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 25000  
 % Moisture.....: 52    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	17000000	ug/kg
Benzo(a) pyrene	ND	17000000	ug/kg
Dibenz(a,h) anthracene	ND	17000000	ug/kg
Dibenzofuran	ND	17000000	ug/kg
Indeno(1,2,3-cd) pyrene	ND	17000000	ug/kg
4-Methylphenol	ND	17000000	ug/kg
<b>Naphthalene</b>	<b>34000000</b>	<b>17000000</b>	<b>ug/kg</b>
Benzo(a) anthracene	ND	17000000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-132

TOTAL Metals

Lot-Sample #...: ASA050248-005

Matrix.....: SO

Date Sampled...: 01/04/05 13:08 Date Received...: 01/05/05

% Moisture.....: 52

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	175	2.1	mg/kg	SW846 6010B	01/06-01/07/05	G158T1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-132

General Chemistry

Lot-Sample #....: A5A050248-005    Work Order #....: G158T    Matrix.....: SO  
Date Sampled....: 01/04/05 13:08    Date Received...: 01/05/05  
% Moisture.....: 52

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	48.0	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-133

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-006 Work Order #....: G158V1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:11 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 18 Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo(b) fluoranthene	ND	400	ug/kg
Benzo(a) pyrene	ND	400	ug/kg
Dibenz(a,h) anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd) pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
<b>Naphthalene</b>	<b>5700 E</b>	<b>400</b>	<b>ug/kg</b>
Benzo(a) anthracene	ND	400	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	64	(42 - 110)
2-Fluorobiphenyl	63	(43 - 110)
Terphenyl-d14	82	(37 - 137)
Phenol-d5	60	(25 - 115)
2-Fluorophenol	56	(11 - 116)
2,4,6-Tribromophenol	37	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.  
 E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-133

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-006 Work Order #....: G158V2AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:11 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/11/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 5  
 ‡ Moisture.....: 18 Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo(b) fluoranthene	ND	2000	ug/kg
Benzo(a) pyrene	ND	2000	ug/kg
Dibenz(a,h) anthracene	ND	2000	ug/kg
Dibenzofuran	ND	2000	ug/kg
Indeno(1,2,3-cd) pyrene	ND	2000	ug/kg
4-Methylphenol	ND	2000	ug/kg
<b>Naphthalene</b>	<b>4600</b>	<b>2000</b>	<b>ug/kg</b>
Benzo(a) anthracene	ND	2000	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	51 DIL	(42 - 110)
2-Fluorobiphenyl	46 DIL	(43 - 110)
Terphenyl-d14	62 DIL	(37 - 137)
Phenol-d5	47 DIL	(25 - 115)
2-Fluorophenol	41 DIL	(11 - 116)
2,4,6-Tribromophenol	33 DIL, *	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-133

TOTAL Metals

Lot-Sample #...: A5A050248-006

Matrix.....: SO

Date Sampled...: 01/04/05 13:11 Date Received...: 01/05/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	373	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G158V1AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-133

General Chemistry

Lot-Sample #...: A5A050248-006    Work Order #...: G158V    Matrix.....: SO  
Date Sampled...: 01/04/05 13:11    Date Received...: 01/05/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-134

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-007 Work Order #....: G158W1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:15 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 23 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	430	ug/kg
Benzo (a) pyrene	ND	430	ug/kg
Dibenz (a, h) anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo (a) anthracene	ND	430	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	64	(42 - 110)
2-Fluorobiphenyl	65	(43 - 110)
Terphenyl-d14	75	(37 - 137)
Phenol-d5	52	(25 - 115)
2-Fluorophenol	42	(11 - 116)
2,4,6-Tribromophenol	21 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-134

TOTAL Metals

Lot-Sample #...: A5A050248-007

Matrix.....: SO

Date Sampled...: 01/04/05 13:15 Date Received...: 01/05/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	226	1.3	mg/kg	SW846 6010B	01/06-01/07/05	G158W1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-134

General Chemistry

Lot-Sample #....: A5A050248-007    Work Order #....: G158W    Matrix.....: SO  
Date Sampled....: 01/04/05 13:15    Date Received...: 01/05/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.3	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-135

GC/MS Semivolatiles

Lot-Sample #...: A5A050248-008 Work Order #...: G15811AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:18 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 400  
 ‡ Moisture.....: 18 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	160000	ug/kg
Benzo (a) pyrene	ND	160000	ug/kg
Dibenz (a, h) anthracene	ND	160000	ug/kg
Dibenzofuran	ND	160000	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	160000	ug/kg
4-Methylphenol	ND	160000	ug/kg
Naphthalene	2000000 E	160000	ug/kg
Benzo (a) anthracene	ND	160000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-135

GC/MS Semivolatiles

Lot-Sample #...: A5A050248-008 Work Order #...: G15812AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:18 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/12/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 2500  
 % Moisture.....: 18 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	1000000	ug/kg
Benzo(a) pyrene	ND	1000000	ug/kg
Dibenz(a,h) anthracene	ND	1000000	ug/kg
Dibenzofuran	ND	1000000	ug/kg
Indeno(1,2,3-cd) pyrene	ND	1000000	ug/kg
4-Methylphenol	ND	1000000	ug/kg
Naphthalene	2100000	1000000	ug/kg
Benzo(a) anthracene	ND	1000000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-135

TOTAL Metals

Lot-Sample #...: A5A050248-008

Matrix.....: SO

Date Sampled...: 01/04/05 13:18 Date Received...: 01/05/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	343	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G15811AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-135

General Chemistry

Lot-Sample #...: A5A050248-008    Work Order #...: G1581    Matrix.....: SO  
Date Sampled...: 01/04/05 13:18    Date Received...: 01/05/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.6	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-136

GC/MS Semivolatiles

Lot-Sample #...: ASA050248-009 Work Order #...: G15841AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:22 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 1  
 ‡ Moisture.....: 14 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67	(42 - 110)
2-Fluorobiphenyl	65	(43 - 110)
Terphenyl-d14	70	(37 - 137)
Phenol-d5	50	(25 - 115)
2-Fluorophenol	40	(11 - 116)
2,4,6-Tribromophenol	21 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-136

TOTAL Metals

Lot-Sample #...: A5A050248-009

Matrix.....: SO

Date Sampled...: 01/04/05 13:22 Date Received...: 01/05/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	544	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G15841AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-136

General Chemistry

Lot-Sample #...: A5A050248-009    Work Order #...: G1584    Matrix.....: SO  
Date Sampled...: 01/04/05 13:22    Date Received...: 01/05/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-137

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-010    Work Order #....: G15871AD    Matrix.....: SO  
 Date Sampled....: 01/04/05 13:25    Date Received...: 01/05/05  
 Prep Date.....: 01/05/05    Analysis Date...: 01/08/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 4  
 % Moisture.....: 5.3    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	1400	ug/kg
Benzo (a) pyrene	ND	1400	ug/kg
Dibenz (a, h) anthracene	ND	1400	ug/kg
Dibenzofuran	ND	1400	ug/kg
Indeno (1, 2, 3 -cd) pyrene	ND	1400	ug/kg
4-Methylphenol	ND	1400	ug/kg
Naphthalene	ND	1400	ug/kg
Benzo (a) anthracene	ND	1400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69 DIL	(42 - 110)
2-Fluorobiphenyl	69 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	49 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-137

TOTAL Metals

Lot-Sample #....: A5A050248-010

Matrix.....: SO

Date Sampled...: 01/04/05 13:25 Date Received...: 01/05/05

% Moisture.....: 5.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #....: 5006022						
Arsenic	335	1.1	mg/kg	SW846 6010B	01/06-01/07/05	G15871AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-137

General Chemistry

Lot-Sample #....: A5A050248-010    Work Order #....: G1587    Matrix.....: SO  
Date Sampled...: 01/04/05 13:25    Date Received...: 01/05/05  
% Moisture.....: 5.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	94.7	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-138

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-011 Work Order #....: G159E1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:30 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 11 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Dibenz(a,h)anthracene	ND	370	ug/kg
Dibenzofuran	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
4-Methylphenol	ND	370	ug/kg
Naphthalene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	73	(37 - 137)
Phenol-d5	67	(25 - 115)
2-Fluorophenol	68	(11 - 116)
2,4,6-Tribromophenol	55	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-138

TOTAL Metals

Lot-Sample #...: A5A050248-011

Matrix.....: SO

Date Sampled...: 01/04/05 13:30 Date Received...: 01/05/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	78.9	1.1	mg/kg	SW846 6010B	01/06-01/07/05	G159E1AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-138

General Chemistry

Lot-Sample #....: A5A050248-011    Work Order #....: G159E    Matrix.....: SO  
Date Sampled....: 01/04/05 13:30    Date Received...: 01/05/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-139

GC/MS Semivolatiles

Lot-Sample #...: A5A050248-012 Work Order #...: G159F1AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:33 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/07/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 8.4 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	360	ug/kg
Benzo (a) pyrene	ND	360	ug/kg
Dibenz (a, h) anthracene	ND	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	ND	360	ug/kg
Benzo (a) anthracene	ND	360	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	69	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	73	(25 - 115)
2-Fluorophenol	78	(11 - 116)
2,4,6-Tribromophenol	57	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-139

TOTAL Metals

Lot-Sample #...: A5A050248-012

Matrix.....: SO

Date Sampled...: 01/04/05 13:33 Date Received...: 01/05/05

% Moisture.....: 8.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	31.6	1.1	mg/kg	SW846 6010B	01/06-01/07/05	G159F1AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-139

General Chemistry

Lot-Sample #...: ASA050248-012    Work Order #...: G159F    Matrix.....: SO  
Date Sampled...: 01/04/05 13:33    Date Received...: 01/05/05  
% Moisture.....: 8.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.6	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-140

GC/MS Semivolatiles

Lot-Sample #...: A5A050248-013 Work Order #...: G159H1AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:37 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/08/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 1  
 % Moisture.....: 17 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	700	400	ug/kg
Benzo (a) pyrene	430	400	ug/kg
Dibenz (a, h) anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo (a) anthracene	570	400	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	67	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	57	(25 - 115)
2-Fluorophenol	45	(11 - 116)
2,4,6-Tribromophenol	25 *	(35 - 116)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-140

TOTAL Metals

Lot-Sample #...: A5A050248-013

Matrix.....: SO

Date Sampled...: 01/04/05 13:37 Date Received...: 01/05/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	87.1	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G159H1AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-140

General Chemistry

Lot-Sample #....: A5A050248-013    Work Order #....: G159H    Matrix.....: SO  
Date Sampled....: 01/04/05 13:37    Date Received...: 01/05/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.2	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-141

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-014 Work Order #....: G159J1AD Matrix.....: SO  
 Date Sampled...: 01/04/05 13:40 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/08/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 4  
 ‡ Moisture.....: 16 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	3900	1600	ug/kg
Benzo (a) pyrene	2500	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	1800	1600	ug/kg
Benzo (a) anthracene	2800	1600	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	76 DIL	(42 - 110)
2-Fluorobiphenyl	76 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	53 DIL	(11 - 116)
2, 4, 6-Tribromophenol	34 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-141

TOTAL Metals

Lot-Sample #...: A5A050248-014

Matrix.....: SO

Date Sampled...: 01/04/05 13:40 Date Received...: 01/05/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	23.9	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G159JIAC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-141

General Chemistry

Lot-Sample #....: A5A050248-014    Work Order #....: G159J    Matrix.....: SO  
Date Sampled....: 01/04/05 13:40    Date Received...: 01/05/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

**Conestoga-Rovers & Associates, Inc.**

**Client Sample ID: S-010405-PP-142**

**GC/MS Semivolatiles**

**Lot-Sample #...**: A5A050248-015    **Work Order #...**: G159K1AD    **Matrix.....**: SO  
**Date Sampled...**: 01/04/05 13:43    **Date Received...**: 01/05/05  
**Prep Date.....**: 01/05/05    **Analysis Date...**: 01/08/05  
**Prep Batch #...**: 5005293  
**Dilution Factor**: 25  
**% Moisture.....**: 14    **Method.....**: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo (b) fluoranthene</b>	<b>37000</b>	<b>9600</b>	<b>ug/kg</b>
<b>Benzo (a) pyrene</b>	<b>26000</b>	<b>9600</b>	<b>ug/kg</b>
Dibenz (a, h) anthracene	ND	9600	ug/kg
Dibenzofuran	ND	9600	ug/kg
<b>Indeno (1, 2, 3-cd) pyrene</b>	<b>14000</b>	<b>9600</b>	<b>ug/kg</b>
4-Methylphenol	ND	9600	ug/kg
Naphthalene	ND	9600	ug/kg
<b>Benzo (a) anthracene</b>	<b>26000</b>	<b>9600</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77 DIL	(42 - 110)
2-Fluorobiphenyl	74 DIL	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	83 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-142

TOTAL Metals

Lot-Sample #...: A5A050248-015

Matrix.....: SO

Date Sampled...: 01/04/05 13:43 Date Received...: 01/05/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5006022						
Arsenic	11.3	1.2	mg/kg	SW846 6010B	01/06-01/07/05	G159K1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-142

General Chemistry

Lot-Sample #....: A5A050248-015    Work Order #....: G159K    Matrix.....: SO  
Date Sampled....: 01/04/05 13:43    Date Received...: 01/05/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-143

GC/MS Semivolatiles

Lot-Sample #....: A5A050248-016 Work Order #....: G159L1AD Matrix.....: SO  
 Date Sampled....: 01/04/05 13:46 Date Received...: 01/05/05  
 Prep Date.....: 01/05/05 Analysis Date...: 01/08/05  
 Prep Batch #....: 5005293  
 Dilution Factor: 5  
 % Moisture.....: 22 Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo (b) fluoranthene	5500	2100	ug/kg
Benzo (a) pyrene	4100	2100	ug/kg
Dibenz (a, h) anthracene	ND	2100	ug/kg
Dibenzofuran	ND	2100	ug/kg
Indeno (1, 2, 3-cd) pyrene	2100	2100	ug/kg
4-Methylphenol	ND	2100	ug/kg
Naphthalene	3300	2100	ug/kg
Benzo (a) anthracene	5000	2100	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	71 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2, 4, 6-Tribromophenol	44 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-143

TOTAL Metals

Lot-Sample #....: A5A050248-016

Matrix.....: SO

Date Sampled...: 01/04/05 13:46 Date Received...: 01/05/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 5006022						
Arsenic	34.4	1.3	mg/kg	SW846 6010B	01/06-01/07/05	G159L1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010405-PP-143

General Chemistry

Lot-Sample #...: A5A050248-016    Work Order #...: G159L    Matrix.....: SO  
Date Sampled...: 01/04/05 13:46    Date Received...: 01/05/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.4	10.0	%	MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A050248  
 MB Lot-Sample #: A5A070000-032  
 Leach Date.....: 01/06/05  
 Leach Batch #...: P500702  
 Dilution Factor: 1

Work Order #...: G18G71AA  
 Prep Date.....: 01/07/05  
 Prep Batch #...: 5007348

Matrix.....: SOLID  
 Analysis Date...: 01/07/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	92	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
Toluene-d8	96	(90 - 122)
4-Bromofluorobenzene	89	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A050248  
 MB Lot-Sample #: A5A050000-293

Work Order #...: G15901AA

Matrix.....: SOLID

Analysis Date...: 01/07/05  
 Dilution Factor: 1

Prep Date.....: 01/05/05  
 Prep Batch #...: 5005293

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo (a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo (b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo (a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz (a, h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	74	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	91	(37 - 137)
Phenol-d5	74	(25 - 115)
2-Fluorophenol	79	(11 - 116)
2, 4, 6-Tribromophenol	60	(35 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5A050248  
 MB Lot-Sample #: A5A110000-308  
 Leach Date.....: 01/06/05  
 Leach Batch #...: P500701  
 Dilution Factor: 1

Work Order #...: G2EMP1AA  
 Prep Date.....: 01/11/05  
 Prep Batch #...: 5011308

Matrix.....: SOLID  
 Analysis Date...: 01/12/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71	(32 - 112)
2-Fluorobiphenyl	65	(30 - 110)
Terphenyl-d14	83	(10 - 144)
Phenol-d5	57	(10 - 113)
2-Fluorophenol	58	(13 - 110)
2,4,6-Tribromophenol	66	(21 - 122)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5A050248

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A5A060000-022				Prep Batch #...: 5006022		
Arsenic	ND	1.0	mg/kg	SW846 6010B	01/06-01/07/05	G16RW1AA
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A050248

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A5A070000-031    Prep Batch #...: 5010020 Leach Date.....: 01/06/05        Leach Batch #...: P500701						
Barium	ND	10.0	mg/L	SW846 6010B	01/10-01/11/05	G18G51AE
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	01/10-01/11/05	G18G51AT
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G18G51AM
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G18G51AG
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	01/10-01/11/05	G18G51AJ
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G18G51AU
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G18G51AD
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	01/10/05	G18G51AN
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #....: A5A050248

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: A5A100000-020 Prep Batch #....: 5010020						
Barium	ND	10.0	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AC
		Dilution Factor: 1				
Cadmium	ND	0.10	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AD
		Dilution Factor: 1				
Chromium	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AE
		Dilution Factor: 1				
Lead	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AF
		Dilution Factor: 1				
Selenium	ND	0.25	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AG
		Dilution Factor: 1				
Silver	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AH
		Dilution Factor: 1				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/10-01/11/05	G2A5J1AA
		Dilution Factor: 1				
Mercury	ND	0.0020	mg/L	SW846 7470A	01/10/05	G2A5J1AJ
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5A050248

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G167D1AA 10.0	%	MB Lot-Sample #: A5A060000-174 MCAWW 160.3 MOD	01/06-01/07/05	5006174

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #....: A5A050248      Work Order #....: G19R41AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A070000-348      G19R41AC-LCSD  
 Prep Date.....: 01/07/05      Analysis Date...: 01/07/05  
 Prep Batch #....: 5007348  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>96</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	<b>93</b>	<b>(76 - 118)</b>	<b>3.4</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>96</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	<b>93</b>	<b>(76 - 113)</b>	<b>3.4</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	<b>100</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	<b>94</b>	<b>(67 - 128)</b>	<b>6.6</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	<b>98</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	<b>94</b>	<b>(76 - 119)</b>	<b>4.0</b>	<b>(0-20)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>93</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	<b>88</b>	<b>(72 - 117)</b>	<b>5.0</b>	<b>(0-30)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
<b>Dibromofluoromethane</b>	<b>94</b>	<b>(86 - 124)</b>
	<b>93</b>	<b>(86 - 124)</b>
<b>1,2-Dichloroethane-d4</b>	<b>90</b>	<b>(80 - 122)</b>
	<b>89</b>	<b>(80 - 122)</b>
<b>Toluene-d8</b>	<b>98</b>	<b>(90 - 122)</b>
	<b>97</b>	<b>(90 - 122)</b>
<b>4-Bromofluorobenzene</b>	<b>90</b>	<b>(84 - 125)</b>
	<b>91</b>	<b>(84 - 125)</b>

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A050248      Work Order #...: G15901AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A050000-293      G15901AD-LCSD  
 Prep Date.....: 01/05/05      Analysis Date...: 01/07/05  
 Prep Batch #...: 5005293  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichlorobenzene	81	(45 - 110)			SW846 8270C
	74	(45 - 110)	8.2	(0-54)	SW846 8270C
Acenaphthene	81	(44 - 110)			SW846 8270C
	79	(44 - 110)	2.8	(0-44)	SW846 8270C
2,4-Dinitrotoluene	89	(48 - 111)			SW846 8270C
	86	(48 - 111)	3.9	(0-45)	SW846 8270C
Pyrene	88	(42 - 122)			SW846 8270C
	92	(42 - 122)	5.3	(0-66)	SW846 8270C
N-Nitrosodi-n-propylamine	93	(38 - 110)			SW846 8270C
	88	(38 - 110)	6.2	(0-50)	SW846 8270C
1,4-Dichlorobenzene	92	(38 - 110)			SW846 8270C
	92	(38 - 110)	0.29	(0-59)	SW846 8270C
Pentachlorophenol	47	(10 - 123)			SW846 8270C
	37	(10 - 123)	22	(0-87)	SW846 8270C
Phenol	81	(35 - 110)			SW846 8270C
	76	(35 - 110)	6.3	(0-50)	SW846 8270C
2-Chlorophenol	82	(43 - 110)			SW846 8270C
	75	(43 - 110)	9.5	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	77	(43 - 110)			SW846 8270C
	77	(43 - 110)	0.78	(0-55)	SW846 8270C
4-Nitrophenol	66	(22 - 128)			SW846 8270C
	65	(22 - 128)	1.6	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	83	(42 - 110)
	77	(42 - 110)
2-Fluorobiphenyl	76	(43 - 110)
	73	(43 - 110)
Terphenyl-d14	89	(37 - 137)
	90	(37 - 137)
Phenol-d5	84	(25 - 115)
	76	(25 - 115)
2-Fluorophenol	85	(11 - 116)
	79	(11 - 116)
2,4,6-Tribromophenol	75	(35 - 116)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #....: A5A050248      Work Order #....: G2EMP1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A110000-308      G2EMP1AD-LCSD  
 Prep Date.....: 01/11/05      Analysis Date...: 01/12/05  
 Prep Batch #....: 5011308  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
o-Cresol	75	(33 - 115)			SW846 8270C
	66	(33 - 115)	13	(0-31)	SW846 8270C
m-Cresol & p-Cresol	81	(46 - 109)			SW846 8270C
	69	(46 - 109)	16	(0-32)	SW846 8270C
1,4-Dichlorobenzene	73	(28 - 110)			SW846 8270C
	65	(28 - 110)	12	(0-36)	SW846 8270C
2,4-Dinitrotoluene	79	(47 - 131)			SW846 8270C
	79	(47 - 131)	0.69	(0-32)	SW846 8270C
Hexachlorobenzene	76	(57 - 128)			SW846 8270C
	72	(57 - 128)	6.3	(0-22)	SW846 8270C
Hexachlorobutadiene	56	(36 - 116)			SW846 8270C
	52	(36 - 116)	7.2	(0-32)	SW846 8270C
Hexachloroethane	65	(30 - 110)			SW846 8270C
	58	(30 - 110)	13	(0-33)	SW846 8270C
Nitrobenzene	74	(45 - 130)			SW846 8270C
	71	(45 - 130)	3.7	(0-50)	SW846 8270C
Pentachlorophenol	59	(10 - 140)			SW846 8270C
	64	(10 - 140)	8.9	(0-56)	SW846 8270C
Pyridine	78	(10 - 148)			SW846 8270C
	65	(10 - 148)	18	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	69	(41 - 125)			SW846 8270C
	69	(41 - 125)	0.22	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	68	(46 - 135)			SW846 8270C
	68	(46 - 135)	0.030	(0-27)	SW846 8270C
Cresols (total)	79	(46 - 109)			SW846 8270C
	68	(46 - 109)	15	(0-32)	SW846 8270C
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>		<u>RECOVERY LIMITS</u>	
Nitrobenzene-d5		72		(32 - 112)	
		67		(32 - 112)	
2-Fluorobiphenyl		64		(30 - 110)	
		63		(30 - 110)	
Terphenyl-d14		81		(10 - 144)	
		75		(10 - 144)	
Phenol-d5		67		(10 - 113)	

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A050248

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5A060000-022 Prep Batch #...: 5006022

Arsenic	89	(80 - 120)	SW846 6010B	01/06-01/07/05	G16RW1AC
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Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TCLP Metals**

**Client Lot #...: A5A050248**

**Matrix.....: SOLID**

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#: A5A100000-020 Prep Batch #...: 5010020</b>					
Barium	101	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AL
Cadmium	101	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AM
Chromium	103	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AN
Lead	98	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AP
Selenium	98	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AQ
Silver	110	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AR
Arsenic	96	(50 - 150)	SW846 6010B Dilution Factor: 1	01/10-01/11/05	G2A5J1AK
Mercury	97	(50 - 150)	SW846 7470A Dilution Factor: 1	01/10/05	G2A5J1AT

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A050248      Work Order #...: G15E21CV-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5A050148-002      G15E21CW-MSD  
 Date Sampled...: 01/04/05 09:20      Date Received...: 01/05/05  
 Leach Date.....: 01/06/05      Prep Date.....: 01/07/05      Analysis Date...: 01/07/05  
 Leach Batch #...: P500702      Prep Batch #...: 5007348  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	95	(76 - 117)			SW846 8260B
	95	(76 - 117)	0.83	(0-30)	SW846 8260B
Chlorobenzene	94	(72 - 114)			SW846 8260B
	89	(72 - 114)	5.5	(0-30)	SW846 8260B
1,1-Dichloroethylene	95	(67 - 129)			SW846 8260B
	100	(67 - 129)	4.6	(0-30)	SW846 8260B
Trichloroethylene	95	(72 - 121)			SW846 8260B
	93	(72 - 121)	2.0	(0-30)	SW846 8260B
Toluene	88	(67 - 113)			SW846 8260B
	83	(67 - 113)	5.6	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(86 - 125)
	94	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
	91	(80 - 122)
Toluene-d8	98	(90 - 122)
	99	(90 - 122)
4-Bromofluorobenzene	92	(84 - 125)
	93	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A5A050248

Matrix.....: SO

Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5A050248-002 Prep Batch #...: 5006022

Arsenic	89	(75 - 125)			SW846 6010B	01/06-01/07/05	G157T1AT
	70 N	(75 - 125)	12	(0-20)	SW846 6010B	01/06-01/07/05	G157T1AU

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TCLP Metals**

Client Lot #...: ASA050248

Matrix.....: SO

Date Sampled...: 01/04/05 12:10 Date Received...: 01/05/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: ASA050248-002 Prep Batch #...: 5010020</b>							
<b>Leach Date.....: 01/06/05 Leach Batch #...: P500701</b>							
Barium	98	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1A2
	95	(50 - 150)	3.2	(0-20)	SW846 6010B	01/10-01/11/05	G157T1A3
Dilution Factor: 5							
Cadmium	99	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1A4
	97	(50 - 150)	2.6	(0-20)	SW846 6010B	01/10-01/11/05	G157T1A5
Dilution Factor: 5							
Chromium	101	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1A6
	98	(50 - 150)	2.7	(0-20)	SW846 6010B	01/10-01/11/05	G157T1A7
Dilution Factor: 5							
Lead	97	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1A8
	95	(50 - 150)	2.5	(0-20)	SW846 6010B	01/10-01/11/05	G157T1A9
Dilution Factor: 5							
Selenium	97	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1CA
	96	(50 - 150)	1.4	(0-20)	SW846 6010B	01/10-01/11/05	G157T1CC
Dilution Factor: 5							
Silver	102	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1CD
	100	(50 - 150)	2.5	(0-20)	SW846 6010B	01/10-01/11/05	G157T1CE
Dilution Factor: 5							
Arsenic	98	(50 - 150)			SW846 6010B	01/10-01/11/05	G157T1A0
	95	(50 - 150)	2.6	(0-20)	SW846 6010B	01/10-01/11/05	G157T1A1
Dilution Factor: 5							
Mercury	101	(50 - 150)			SW846 7470A	01/10/05	G157T1CF
	100	(50 - 150)	1.0	(0-20)	SW846 7470A	01/10/05	G157T1CG
Dilution Factor: 1							

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.







**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan Manufacturing Gas & Calc Plant

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Peter Patlak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	NO. OF CONTAINERS	PARAMETERS	REMARKS
----------	------	------	---------------------------	---------------	-------------------	------------	---------

1-4-05	12:15		S-010405-PP-007	Soil	2	X X	Category 2-5
1-4-05	12:10		S-010405-PP-008	Soil	2	X X	Category 3-3
1-4-05	14:05		S-010405-PP-004	Soil	2	X X	Category 3-2
1-4-05	13:05		S-010405-PP-131	Soil	1	X X	Siderall verification
1-4-05	13:08		S-010405-PP-132	Soil	1	X X	
1-4-05	13:11		S-010405-PP-133	Soil	1	X X	GALVIC (TAT)
1-4-05	12:15		S-010405-PP-134	Soil	1	X X	
1-4-05	13:18		S-010405-PP-135	Soil	1	X X	
1-4-05	12:22		S-010405-PP-136	Soil	1	X X	
1-4-05	13:25		S-010405-PP-137	Soil	1	X X	
1-4-05	13:25		S-010405-PP-138	Soil	1	X X	
1-4-05	13:30		S-010405-PP-139	Soil	1	X X	
1-4-05	13:33		S-010405-PP-140	Soil	1	X X	
1-4-05	13:37		S-010405-PP-141	Soil	1	X X	
1-4-05	13:40		S-010405-PP-142	Soil	1	X X	

TOTAL NUMBER OF CONTAINERS 18

RELINQUISHED BY: <i>[Signature]</i>	DATE: 1/4/05	RECEIVED BY: <i>[Signature]</i>	DATE: 1/4/05
RELINQUISHED BY: <i>[Signature]</i>	DATE: 1/7/05	RECEIVED BY: <i>[Signature]</i>	DATE: 1/7/05
RELINQUISHED BY: <i>[Signature]</i>	DATE: 1/7/05	RECEIVED BY: <i>[Signature]</i>	DATE: 1/7/05

METHOD OF SHIPMENT: FEDEX AIR BILL No. 8490 1342 6140

White - Fully Executed Copy	SAMPLE TEAM: <i>Patlak</i>	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>	DATE: 1-5-05	TIME: 9:45
Yellow - Receiving Laboratory Copy				
Pink - Shipper Copy				
Goldenrod - Sampler Copy				



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:

018023-84

PROJECT NAME:

Manufactured Car and Plant

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Pitersh Patlak*

PARAMETERS: *5.12 Spec for Metal Analysis*

SEQ. No. DATE TIME SAMPLE IDENTIFICATION NO.

SAMPLE MATRIX No. OF CONTAINERS

REMARKS

1405 1346 S-010405-PP-143

Soil 1 XX

Sidwell verification

TOTAL NUMBER OF CONTAINERS

1

*(A VOL) TAT*

RELINQUISHED BY: *[Signature]*

DATE: 1/4/05 TIME: 17:00

RECEIVED BY: *[Signature]*

DATE: TIME:

RELINQUISHED BY: *[Signature]*

DATE: TIME:

RECEIVED BY: *[Signature]*

DATE: TIME:

RELINQUISHED BY: *[Signature]*

DATE: TIME:

RECEIVED BY: *[Signature]*

DATE: TIME:

METHOD OF SHIPMENT: FEDEX

AIR BILL No. 8490 1342 6140

White -Fully Executed Copy

Yellow -Receiving Laboratory Copy

Pink -Shipper Copy

Goldenrod -Sampler Copy

SAMPLE TEAM:

*P. Patlak*

RECEIVED FOR LABORATORY BY:

*[Signature]*

12251

DATE: 1-5-05 TIME: 9:45

**STL Cooler Receipt Form/Narrative**

Lot Number: ASA050248

**North Canton Facility**

Client: CRA

Project: Waukegan

Quote#: 48891

Cooler Received on: 1-5-05

Opened on: 1-5-05

by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 4.4 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM ALM Date: 1/5/05 by: TJB via Voice Mail  Verbal  Other

Concerning: # 1

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

Sample from S-010405-PP-140 was received in a broken 250ml jar & the contents were transferred to a new 250ml jar.

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) S-010405-PP-140 (1x250) were received in a broken container. 1 sample transferred

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 19023-84

WAUKEGAN MANUFACTURED GAS/COKE

Lot #: A5A070170

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

January 20, 2005

# **CASE NARRATIVE**

A5A070170

The following report contains the analytical results for nine solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Manufactured Gas/Coke Site, project number 19023-84. The samples were received January 7, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 18, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 1.6° C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Samples S-010605-PP-009, S-010605-PP-011, S-010605-PP-144, S-010605-PP-145, S-010605-PP-146, and S-010605-PP-149 each had up to one surrogate recovery per fraction outside acceptance limits. However, since the recoveries were greater than 10% and all associated QC met criteria, no corrective action was taken.

Two analyses were used to report sample S-010605-PP-146 due to high analyte concentrations.

The internal standard areas were outside acceptance limits for sample S-010605-PP-150 due to matrix effects (1,4-Dichlorobenzene-d4 and Naphthalene-d8 out low).

Samples S-010605-PP-147 and S-010605-PP-150 had elevated reporting limits due to matrix interferences.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

\* for analyses run on TJA Trace ICP only

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

---

### **STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (#E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

# EXECUTIVE SUMMARY - Detection Highlights

A5A070170

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-010605-PP-144 01/06/05 13:50 003</b>				
Arsenic	12.8	1.2	mg/kg	SW846 6010B
Percent Solids	85.7	10.0	%	MCAWW 160.3 MOD
<b>S-010605-PP-145 01/06/05 13:50 004</b>				
Arsenic	61.8	1.2	mg/kg	SW846 6010B
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD
<b>S-010605-PP-146 01/06/05 13:57 005</b>				
Arsenic	26.7	1.2	mg/kg	SW846 6010B
Benzo(b) fluoranthene	1800	390	ug/kg	SW846 8270C
Benzo(a) pyrene	1200	390	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	710	390	ug/kg	SW846 8270C
Naphthalene	3500 E	390	ug/kg	SW846 8270C
Benzo(a) anthracene	1700	390	ug/kg	SW846 8270C
Benzo(b) fluoranthene	2700	1600	ug/kg	SW846 8270C
Benzo(a) pyrene	1700	1600	ug/kg	SW846 8270C
Naphthalene	4300	1600	ug/kg	SW846 8270C
Benzo(a) anthracene	1900	1600	ug/kg	SW846 8270C
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD
<b>S-010605-PP-147 01/06/05 14:03 006</b>				
Arsenic	12.6	1.2	mg/kg	SW846 6010B
Percent Solids	81.9	10.0	%	MCAWW 160.3 MOD
<b>S-010605-PP-148 01/06/05 14:09 007</b>				
Arsenic	271	1.1	mg/kg	SW846 6010B
Benzo(b) fluoranthene	410	360	ug/kg	SW846 8270C
Percent Solids	92.6	10.0	%	MCAWW 160.3 MOD
<b>S-010605-PP-149 01/06/05 14:17 009</b>				
Arsenic	13.0	1.3	mg/kg	SW846 6010B
Benzo(b) fluoranthene	490	430	ug/kg	SW846 8270C
Percent Solids	76.2	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

ASA070170

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-010605-PP-150 01/06/05 14:25 010				
Arsenic	30.3	1.4	mg/kg	SW846 6010B
Percent Solids	73.9	10.0	%	MCAW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5A070170

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

ASA070170

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
G1849	001	S-010605-PP-009	01/06/05	14:45
G185D	002	S-010605-PP-011	01/06/05	14:35
G185F	003	S-010605-PP-144	01/06/05	13:50
G185J	004	S-010605-PP-145	01/06/05	13:50
G185L	005	S-010605-PP-146	01/06/05	13:57
G185R	006	S-010605-PP-147	01/06/05	14:03
G185T	007	S-010605-PP-148	01/06/05	14:09
G1850	008	W-010605-PP-500	01/06/05	15:15
G1852	009	S-010605-PP-149	01/06/05	14:17
G1854	010	S-010605-PP-150	01/06/05	14:25

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-009

TCLP GC/MS Volatiles

Lot-Sample #...: A5A070170-001    Work Order #...: G18491AA    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:45    Date Received...: 01/07/05  
 Leach Date.....: 01/10/05    Prep Date.....: 01/12/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P501012    Prep Batch #...: 5013205  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	103	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	106	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-009

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A070170-001    Work Order #...: G18491AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:45    Date Received...: 01/07/05  
 Leach Date.....: 01/10/05    Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P501008    Prep Batch #...: 5011138  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	58	(32 - 112)
2-Fluorobiphenyl	56	(30 - 110)
Terphenyl-d14	66	(10 - 144)
Phenol-d5	58	(10 - 113)
2-Fluorophenol	57	(13 - 110)
2,4,6-Tribromophenol	15 *	(21 - 122)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-009

TCLP Metals

Lot-Sample #...: A5A070170-001

Matrix.....: SO

Date Sampled...: 01/06/05 14:45 Date Received...: 01/07/05

Leach Date.....: 01/10/05 Leach Batch #...: P501008

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5012016						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/12/05	G18491AE
		Dilution Factor: 1				

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-011

TCLP GC/MS Volatiles

Lot-Sample #...: A5A070170-002    Work Order #...: G185D1AA    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:35    Date Received...: 01/07/05  
 Leach Date.....: 01/10/05    Prep Date.....: 01/12/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P501012    Prep Batch #...: 5013205  
 Dilution Factor: 1  
 ‡ Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(86 - 125)
1,2-Dichloroethane-d4	91	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	92	(84 - 125)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-011

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A070170-002    Work Order #...: G185D1AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:35    Date Received...: 01/07/05  
 Leach Date.....: 01/10/05    Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Leach Batch #...: P501008    Prep Batch #...: 5011138  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	81	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	67	(10 - 144)
Phenol-d5	58	(10 - 113)
2-Fluorophenol	54	(13 - 110)
2,4,6-Tribromophenol	18 *	(21 - 122)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-011

TCLP Metals

Lot-Sample #...: A5A070170-002

Matrix.....: SO

Date Sampled...: 01/06/05 14:35 Date Received...: 01/07/05

Leach Date.....: 01/10/05 Leach Batch #...: P501008

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5012016						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/12/05	G185D1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-144

GC/MS Semivolatiles

Lot-Sample #...: A5A070170-003    Work Order #...: G185F1AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 13:50    Date Received...: 01/07/05  
 Prep Date.....: 01/09/05    Analysis Date...: 01/14/05  
 Prep Batch #...: 5008024  
 Dilution Factor: 1  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	390	ug/kg
Benzo (a) pyrene	ND	390	ug/kg
Dibenz (a, h) anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo (a) anthracene	ND	390	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	73	(42 - 110)
2-Fluorobiphenyl	65	(43 - 110)
Terphenyl-d14	78	(37 - 137)
Phenol-d5	50	(25 - 115)
2-Fluorophenol	35	(11 - 116)
2,4,6-Tribromophenol	17 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-144

TOTAL Metals

Lot-Sample #...: ASA070170-003

Matrix.....: SO

Date Sampled...: 01/06/05 13:50 Date Received...: 01/07/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	12.8	1.2	mg/kg	SW846 6010B	01/11-01/12/05	G185F1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-144

General Chemistry

Lot-Sample #....: A5A070170-003    Work Order #....: G185F    Matrix.....: SO  
Date Sampled...: 01/06/05 13:50    Date Received...: 01/07/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.7	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-145

GC/MS Semivolatiles

Lot-Sample #...: A5A070170-004    Work Order #...: G185J1AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 13:50    Date Received...: 01/07/05  
 Prep Date.....: 01/09/05    Analysis Date...: 01/17/05  
 Prep Batch #...: 5008024  
 Dilution Factor: 1  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	400	ug/kg
Benzo(a) pyrene	ND	400	ug/kg
Dibenz(a,h) anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd) pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo(a) anthracene	ND	400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	81	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	47	(25 - 115)
2-Fluorophenol	29	(11 - 116)
2,4,6-Tribromophenol	11 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-145

TOTAL Metals

Lot-Sample #...: A5A070170-004

Matrix.....: SO

Date Sampled...: 01/06/05 13:50 Date Received...: 01/07/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	61.8	1.2	mg/kg	SW846 6010B	01/11-01/12/05	G185J1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-145

General Chemistry

Lot-Sample #...: A5A070170-004    Work Order #...: G185J    Matrix.....: SO  
Date Sampled...: 01/06/05 13:50    Date Received...: 01/07/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-146

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-005    Work Order #....: G185L1AD    Matrix.....: SO  
 Date Sampled....: 01/06/05 13:57    Date Received...: 01/07/05  
 Prep Date.....: 01/09/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5008024  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	1800	390	ug/kg
Benzo (a) pyrene	1200	390	ug/kg
Dibenz (a, h) anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno (1, 2, 3-cd) pyrene	710	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	3500 E	390	ug/kg
Benzo (a) anthracene	1700	390	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	99	(42 - 110)
2-Fluorobiphenyl	77	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	71	(25 - 115)
2-Fluorophenol	58	(11 - 116)
2,4,6-Tribromophenol	25 *	(35 - 116)

**NOTE (S) :**

- \* Surrogate recovery is outside stated control limits.
- Results and reporting limits have been adjusted for dry weight.
- E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-146

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-005    Work Order #....: G185L2AD    Matrix.....: SO  
 Date Sampled....: 01/06/05 13:57    Date Received...: 01/07/05  
 Prep Date.....: 01/09/05    Analysis Date...: 01/14/05  
 Prep Batch #....: 5008024  
 Dilution Factor: 4  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	2700	1600	ug/kg
Benzo (a) pyrene	1700	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	4300	1600	ug/kg
Benzo (a) anthracene	1900	1600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	89 DIL	(42 - 110)
2-Fluorobiphenyl	82 DIL	(43 - 110)
Terphenyl-d14	93 DIL	(37 - 137)
Phenol-d5	81 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	61 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-146

TOTAL Metals

Lot-Sample #...: A5A070170-005

Matrix.....: SO

Date Sampled...: 01/06/05 13:57 Date Received...: 01/07/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	26.7	1.2	mg/kg	SW846 6010B	01/11-01/12/05	G185L1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-146

General Chemistry

Lot-Sample #...: A5A070170-005    Work Order #...: G185L    Matrix.....: SO  
Date Sampled...: 01/06/05 13:57    Date Received...: 01/07/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-147

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-006    Work Order #....: G185R1AD    Matrix.....: SO  
 Date Sampled....: 01/06/05 14:03    Date Received...: 01/07/05  
 Prep Date.....: 01/09/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5008024  
 Dilution Factor: 4  
 % Moisture.....: 18    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	1600	ug/kg
Benzo (a) pyrene	ND	1600	ug/kg
Dibenz (a, h) anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	ND	1600	ug/kg
Benzo (a) anthracene	ND	1600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	87 DIL	(42 - 110)
2-Fluorobiphenyl	80 DIL	(43 - 110)
Terphenyl-d14	86 DIL	(37 - 137)
Phenol-d5	40 DIL	(25 - 115)
2-Fluorophenol	29 DIL	(11 - 116)
2,4,6-Tribromophenol	12 DIL, *	(35 - 116)

**NOTE(S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-147

TOTAL Metals

Lot-Sample #...: A5A070170-006

Matrix.....: SO

Date Sampled...: 01/06/05 14:03 Date Received...: 01/07/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	12.6	1.2	mg/kg	SW846 6010B	01/11-01/12/05	G185R1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-147

General Chemistry

Lot-Sample #....: A5A070170-006    Work Order #....: G185R    Matrix.....: SO  
Date Sampled....: 01/06/05 14:03    Date Received...: 01/07/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.9	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-148

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-007    Work Order #....: G185T1AD    Matrix.....: SO  
 Date Sampled....: 01/06/05 14:09    Date Received...: 01/07/05  
 Prep Date.....: 01/10/05    Analysis Date...: 01/11/05  
 Prep Batch #....: 5010364  
 Dilution Factor: 1  
 % Moisture.....: 7.4    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo (b) fluoranthene</b>	<b>410</b>	<b>360</b>	<b>ug/kg</b>
Benzo (a) pyrene	ND	360	ug/kg
Dibenz (a, h) anthracene	ND	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	ND	360	ug/kg
Benzo (a) anthracene	ND	360	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	83	(42 - 110)
2-Fluorobiphenyl	62	(43 - 110)
Terphenyl-d14	71	(37 - 137)
Phenol-d5	62	(25 - 115)
2-Fluorophenol	60	(11 - 116)
2,4,6-Tribromophenol	62	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-148

TOTAL Metals

Lot-Sample #...: A5A070170-007

Matrix.....: SO

Date Sampled...: 01/06/05 14:09 Date Received...: 01/07/05

% Moisture.....: 7.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	271	1.1	mg/kg	SW846 6010B	01/11-01/12/05	G185T1AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-148

General Chemistry

Lot-Sample #...: A5A070170-007    Work Order #...: G185T    Matrix.....: SO  
Date Sampled...: 01/06/05 14:09    Date Received...: 01/07/05  
% Moisture.....: 7.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.6	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-010605-PP-500

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-008    Work Order #....: G18501AC    Matrix.....: WG  
 Date Sampled....: 01/06/05 15:15    Date Received...: 01/07/05  
 Prep Date.....: 01/08/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5007337  
 Dilution Factor: 1    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (a) anthracene	ND	10	ug/L
Benzo (b) fluoranthene	ND	10	ug/L
Benzo (a) pyrene	ND	10	ug/L
Dibenz (a, h) anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno (1, 2, 3-cd) pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	63	(30 - 110)
Terphenyl-d14	81	(10 - 144)
Phenol-d5	67	(10 - 113)
2-Fluorophenol	68	(13 - 110)
2,4,6-Tribromophenol	64	(21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-010605-PP-500

TOTAL Metals

Lot-Sample #...: A5A070170-008

Matrix.....: WG

Date Sampled...: 01/06/05 15:15 Date Received...: 01/07/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5010015						
Arsenic	ND	0.010	mg/L	SW846 6010B	01/10-01/11/05	G18501AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-149

GC/MS Semivolatiles

Lot-Sample #...: A5A070170-009    Work Order #...: G18521AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:17    Date Received...: 01/07/05  
 Prep Date.....: 01/10/05    Analysis Date...: 01/12/05  
 Prep Batch #...: 5010364  
 Dilution Factor: 1  
 % Moisture.....: 24    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	490	430	ug/kg
Benzo (a) pyrene	ND	430	ug/kg
Dibenz (a, h) anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo (a) anthracene	ND	430	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	85	(42 - 110)
2-Fluorobiphenyl	63	(43 - 110)
Terphenyl-d14	68	(37 - 137)
Phenol-d5	60	(25 - 115)
2-Fluorophenol	56	(11 - 116)
2,4,6-Tribromophenol	18 *	(35 - 116)

**NOTE (S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-149

TOTAL Metals

Lot-Sample #...: A5A070170-009

Matrix.....: SO

Date Sampled...: 01/06/05 14:17 Date Received...: 01/07/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	13.0	1.3	mg/kg	SW846 6010B	01/11-01/12/05	G18521AC
		Dilution Factor: 1				

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-149

General Chemistry

Lot-Sample #...: A5A070170-009    Work Order #...: G1852    Matrix.....: SO  
Date Sampled...: 01/06/05 14:17    Date Received...: 01/07/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.2	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-150

GC/MS Semivolatiles

Lot-Sample #....: A5A070170-010    Work Order #....: G18541AD    Matrix.....: SO  
 Date Sampled...: 01/06/05 14:25    Date Received...: 01/07/05  
 Prep Date.....: 01/10/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5010364  
 Dilution Factor: 20  
 % Moisture.....: 26    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	8900	ug/kg
Benzo (a) pyrene	ND	8900	ug/kg
Dibenz (a, h) anthracene	ND	8900	ug/kg
Dibenzofuran	ND	8900	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	8900	ug/kg
4-Methylphenol	ND	8900	ug/kg
Naphthalene	ND	8900	ug/kg
Benzo (a) anthracene	ND	8900	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	101 DIL	(42 - 110)
2-Fluorobiphenyl	54 DIL	(43 - 110)
Terphenyl-d14	87 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-150

TOTAL Metals

Lot-Sample #...: A5A070170-010

Matrix.....: SO

Date Sampled...: 01/06/05 14:25 Date Received...: 01/07/05

% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5011021						
Arsenic	30.3	1.4	mg/kg	SW846 6010B	01/11-01/12/05	G18541AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-010605-PP-150

General Chemistry

Lot-Sample #....: A5A070170-010    Work Order #....: G1854    Matrix.....: SO  
Date Sampled....: 01/06/05 14:25    Date Received...: 01/07/05  
% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.9	10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325

Dilution Factor: 1

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A070170      Work Order #...: G2CHE1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5A100000-205  
 Leach Date.....: 01/10/05      Prep Date.....: 01/12/05      Analysis Date...: 01/12/05  
 Leach Batch #...: P501012      Prep Batch #...: 5013205  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	101	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170  
 MB Lot-Sample #: A5A070000-337

Work Order #...: G19RM1AA

Matrix.....: WATER

Prep Date.....: 01/08/05

Prep Batch #...: 5007337

Analysis Date...: 01/10/05

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzo (a) anthracene	ND	10	ug/L	SW846 8270C
Benzo (b) fluoranthene	ND	10	ug/L	SW846 8270C
Benzo (a) pyrene	ND	10	ug/L	SW846 8270C
Dibenz (a, h) anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	73	(32 - 112)
2-Fluorobiphenyl	59	(30 - 110)
Terphenyl-d14	85	(10 - 144)
Phenol-d5	68	(10 - 113)
2-Fluorophenol	67	(13 - 110)
2,4,6-Tribromophenol	60	(21 - 122)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170  
 MB Lot-Sample #: A5A080000-024

Work Order #...: G2ATM1AA

Matrix.....: SOLID

Prep Date.....: 01/09/05

Analysis Date...: 01/11/05

Prep Batch #...: 5008024

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzo (a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo (b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo (a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz (a, h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	97	(42 - 110)
2-Fluorobiphenyl	79	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	83	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2, 4, 6-Tribromophenol	81	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170      Work Order #...: G2C661AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5A100000-364  
 Prep Date.....: 01/10/05  
 Analysis Date...: 01/11/05      Prep Batch #...: 5010364  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzo (a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo (b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo (a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz (a, h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	84	(42 - 110)
2-Fluorobiphenyl	71	(43 - 110)
Terphenyl-d14	74	(37 - 137)
Phenol-d5	78	(25 - 115)
2-Fluorophenol	77	(11 - 116)
2, 4, 6-Tribromophenol	79	(35 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5A070170  
 MB Lot-Sample #: A5A110000-138  
 Leach Date.....: 01/10/05  
 Leach Batch #...: P501008  
 Dilution Factor: 1

Work Order #...: G2D021AA  
 Prep Date.....: 01/11/05  
 Prep Batch #...: 5011138

Matrix.....: SOLID  
 Analysis Date...: 01/12/05

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	86	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	71	(10 - 144)
Phenol-d5	58	(10 - 113)
2-Fluorophenol	61	(13 - 110)
2,4,6-Tribromophenol	31	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5A070170

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #:</b> A5A100000-015 <b>Prep Batch #...:</b> 5010015						
Arsenic	ND	0.010	mg/L	SW846 6010B	01/10/05	G2A471AQ
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #:</b> A5A110000-021 <b>Prep Batch #...</b> : 5011021						
Arsenic	ND	1.0	mg/kg	SW846 6010B	01/11/05	G2DMR1AA
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5A100000-149	Prep Batch #...:	5012016			
Leach Date.....:	01/10/05	Leach Batch #...:	P501008			
Arsenic	ND	0.50	mg/L	SW846 6010B	01/12/05	G2CE71AC
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5A120000-016		Prep Batch #...: 5012016				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/12/05	G2E8M1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G2EM81AA		MB Lot-Sample #:	A5A110000-325	
		10.0	%	MCAWW 160.3 MOD	01/11-01/12/05	5011325
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #....: A5A070170      Work Order #....: G2HWX1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A130000-205      G2HWX1AC-LCSD  
 Prep Date.....: 01/12/05      Analysis Date...: 01/12/05  
 Prep Batch #....: 5013205  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	89	(76 - 118)			SW846 8260B
	89	(76 - 118)	0.080	(0-30)	SW846 8260B
Chlorobenzene	91	(76 - 113)			SW846 8260B
	92	(76 - 113)	1.2	(0-30)	SW846 8260B
1,1-Dichloroethylene	89	(67 - 128)			SW846 8260B
	87	(67 - 128)	1.2	(0-30)	SW846 8260B
Trichloroethylene	88	(76 - 119)			SW846 8260B
	88	(76 - 119)	0.20	(0-30)	SW846 8260B
Toluene	87	(72 - 117)			SW846 8260B
	87	(72 - 117)	0.12	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(86 - 124)
	99	(86 - 124)
1,2-Dichloroethane-d4	93	(80 - 122)
	95	(80 - 122)
Toluene-d8	103	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)
	100	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A5A070170      Work Order #...: G19RMLAC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5A070000-337      G19RMLAD-LCSD  
 Prep Date.....: 01/08/05      Analysis Date...: 01/10/05  
 Prep Batch #...: 5007337  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichlorobenzene	57	(31 - 110)			SW846 8270C
	52	(31 - 110)	9.4	(0-37)	SW846 8270C
Acenaphthene	70	(39 - 118)			SW846 8270C
	69	(39 - 118)	1.8	(0-35)	SW846 8270C
2,4-Dinitrotoluene	76	(47 - 131)			SW846 8270C
	76	(47 - 131)	0.35	(0-32)	SW846 8270C
Pyrene	79	(46 - 130)			SW846 8270C
	79	(46 - 130)	0.87	(0-31)	SW846 8270C
N-Nitrosodi-n-propylamine	85	(30 - 115)			SW846 8270C
	85	(30 - 115)	0.87	(0-36)	SW846 8270C
1,4-Dichlorobenzene	65	(28 - 110)			SW846 8270C
	64	(28 - 110)	0.65	(0-36)	SW846 8270C
Pentachlorophenol	57	(10 - 140)			SW846 8270C
	61	(10 - 140)	6.2	(0-56)	SW846 8270C
Phenol	73	(10 - 131)			SW846 8270C
	72	(10 - 131)	1.3	(0-43)	SW846 8270C
2-Chlorophenol	72	(19 - 124)			SW846 8270C
	69	(19 - 124)	3.3	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	68	(29 - 124)			SW846 8270C
	66	(29 - 124)	2.6	(0-55)	SW846 8270C
4-Nitrophenol	53	(19 - 144)			SW846 8270C
	59	(19 - 144)	11	(0-34)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77	(32 - 112)
	76	(32 - 112)
2-Fluorobiphenyl	68	(30 - 110)
	67	(30 - 110)
Terphenyl-d14	80	(10 - 144)
	80	(10 - 144)
Phenol-d5	76	(10 - 113)
	75	(10 - 113)
2-Fluorophenol	73	(13 - 110)
	72	(13 - 110)
2,4,6-Tribromophenol	72	(21 - 122)

(Continued on next page)



**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #....: ASA070170      Work Order #....: G2ATM1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: ASA080000-024  
 Prep Date.....: 01/09/05      Analysis Date...: 01/11/05  
 Prep Batch #....: 5008024  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	76	(45 - 110)	SW846 8270C
Acenaphthene	76	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	94	(48 - 111)	SW846 8270C
Pyrene	84	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl-amine	85	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	82	(38 - 110)	SW846 8270C
Pentachlorophenol	86	(10 - 123)	SW846 8270C
Phenol	76	(35 - 110)	SW846 8270C
2-Chlorophenol	68	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	94	(43 - 110)	SW846 8270C
4-Nitrophenol	96	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	89	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	87	(37 - 137)
Phenol-d5	76	(25 - 115)
2-Fluorophenol	81	(11 - 116)
2,4,6-Tribromophenol	94	(35 - 116)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #....: A5A070170      Work Order #....: G2C661AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A100000-364      G2C661AD-LCSD  
 Prep Date.....: 01/10/05      Analysis Date...: 01/11/05  
 Prep Batch #....: 5010364  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichlorobenzene	81	(45 - 110)			SW846 8270C
	80	(45 - 110)	1.2	(0-54)	SW846 8270C
Acenaphthene	73	(44 - 110)			SW846 8270C
	72	(44 - 110)	1.0	(0-44)	SW846 8270C
2,4-Dinitrotoluene	85	(48 - 111)			SW846 8270C
	83	(48 - 111)	2.9	(0-45)	SW846 8270C
Pyrene	76	(42 - 122)			SW846 8270C
	77	(42 - 122)	0.89	(0-66)	SW846 8270C
N-Nitrosodi-n-propylamine	92	(38 - 110)			SW846 8270C
	84	(38 - 110)	8.6	(0-50)	SW846 8270C
1,4-Dichlorobenzene	94	(38 - 110)			SW846 8270C
	79	(38 - 110)	17	(0-59)	SW846 8270C
Pentachlorophenol	64	(10 - 123)			SW846 8270C
	55	(10 - 123)	15	(0-87)	SW846 8270C
Phenol	79	(35 - 110)			SW846 8270C
	76	(35 - 110)	3.0	(0-50)	SW846 8270C
2-Chlorophenol	74	(43 - 110)			SW846 8270C
	76	(43 - 110)	2.6	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	85	(43 - 110)			SW846 8270C
	87	(43 - 110)	1.9	(0-55)	SW846 8270C
4-Nitrophenol	84	(22 - 128)			SW846 8270C
	79	(22 - 128)	6.0	(0-64)	SW846 8270C
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>		<u>RECOVERY LIMITS</u>	
Nitrobenzene-d5		99		(42 - 110)	
		96		(42 - 110)	
2-Fluorobiphenyl		78		(43 - 110)	
		76		(43 - 110)	
Terphenyl-d14		85		(37 - 137)	
		84		(37 - 137)	
Phenol-d5		89		(25 - 115)	
		82		(25 - 115)	
2-Fluorophenol		90		(11 - 116)	
		85		(11 - 116)	
2,4,6-Tribromophenol		92		(35 - 116)	

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170      Work Order #...: G2D021AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A110000-138      G2D021AD-LCSD  
 Prep Date.....: 01/11/05      Analysis Date...: 01/14/05  
 Prep Batch #...: 5011138  
 Dilution Factor: 1

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
o-Cresol	86	(33 - 115)			SW846 8270C
	78	(33 - 115)	9.9	(0-31)	SW846 8270C
m-Cresol & p-Cresol	85	(46 - 109)			SW846 8270C
	81	(46 - 109)	4.4	(0-32)	SW846 8270C
1,4-Dichlorobenzene	89	(28 - 110)			SW846 8270C
	87	(28 - 110)	1.8	(0-36)	SW846 8270C
2,4-Dinitrotoluene	89	(47 - 131)			SW846 8270C
	85	(47 - 131)	4.0	(0-32)	SW846 8270C
Hexachlorobenzene	88	(57 - 128)			SW846 8270C
	81	(57 - 128)	8.6	(0-22)	SW846 8270C
Hexachlorobutadiene	78	(36 - 116)			SW846 8270C
	73	(36 - 116)	6.3	(0-32)	SW846 8270C
Hexachloroethane	88	(30 - 110)			SW846 8270C
	79	(30 - 110)	11	(0-33)	SW846 8270C
Nitrobenzene	87	(45 - 130)			SW846 8270C
	84	(45 - 130)	4.1	(0-50)	SW846 8270C
Pentachlorophenol	91	(10 - 140)			SW846 8270C
	86	(10 - 140)	5.4	(0-56)	SW846 8270C
Pyridine	85	(10 - 148)			SW846 8270C
	82	(10 - 148)	4.2	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	83	(41 - 125)			SW846 8270C
	78	(41 - 125)	5.9	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	78	(46 - 135)			SW846 8270C
	75	(46 - 135)	4.5	(0-27)	SW846 8270C
Cresols (total)	85	(46 - 109)			SW846 8270C
	80	(46 - 109)	6.2	(0-32)	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	85	(32 - 112)
	81	(32 - 112)
2-Fluorobiphenyl	78	(30 - 110)
	74	(30 - 110)
Terphenyl-d14	87	(10 - 144)
	79	(10 - 144)
Phenol-d5	72	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170      Work Order #...: G2D021AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5A110000-138      G2D021AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	67	(10 - 113)
2-Fluorophenol	77	(13 - 110)
	71	(13 - 110)
2,4,6-Tribromophenol	87	(21 - 122)
	84	(21 - 122)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A5A070170

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>LCS Lot-Sample#:</b> A5A100000-015 <b>Prep Batch #...:</b> 5010015					
Arsenic	97	(80 - 120)	SW846 6010B	01/10/05	G2A471A1
		Dilution Factor: 1			

**NOTE (S) :**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A110000-021	Prep Batch #....:	5011021		
Arsenic	90	(80 - 120)	SW846 6010B	01/11-01/12/05	G2DMR1AC
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5A070170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A120000-016	Prep Batch #...	5012016		
Arsenic	97	(50 - 150)	SW846 6010B	01/12/05	G2E8M1AK
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A070170      Work Order #...: G173K1A4-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5A060277-004      G173K1A5-MSD  
 Date Sampled...: 01/04/05 16:00      Date Received...: 01/06/05  
 Leach Date.....: 01/10/05      Prep Date.....: 01/12/05      Analysis Date...: 01/12/05  
 Leach Batch #...: P501012      Prep Batch #...: 5013205  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	89	(76 - 117)			SW846 8260B
	89	(76 - 117)	0.20	(0-30)	SW846 8260B
Chlorobenzene	89	(72 - 114)			SW846 8260B
	87	(72 - 114)	3.2	(0-30)	SW846 8260B
1,1-Dichloroethylene	90	(67 - 129)			SW846 8260B
	89	(67 - 129)	1.4	(0-30)	SW846 8260B
Trichloroethylene	87	(72 - 121)			SW846 8260B
	86	(72 - 121)	2.3	(0-30)	SW846 8260B
Toluene	85	(67 - 113)			SW846 8260B
	84	(67 - 113)	1.8	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	104	(86 - 125)
	104	(86 - 125)
1,2-Dichloroethane-d4	98	(80 - 122)
	98	(80 - 122)
Toluene-d8	103	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	104	(84 - 125)
	103	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170      Work Order #...: G185L1AJ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5A070170-005      G185L1AK-MSD  
 Date Sampled...: 01/06/05 13:57      Date Received...: 01/07/05  
 Prep Date.....: 01/09/05      Analysis Date...: 01/14/05  
 Prep Batch #...: 5008024  
 Dilution Factor: 4

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	84 DIL	(16 - 121)			SW846 8270C
	78 DIL	(16 - 121)	7.7	(0-54)	SW846 8270C
Acenaphthene	85 DIL	(13 - 133)			SW846 8270C
	86 DIL	(13 - 133)	0.78	(0-44)	SW846 8270C
2,4-Dinitrotoluene	87 DIL	(10 - 171)			SW846 8270C
	74 DIL	(10 - 171)	17	(0-45)	SW846 8270C
Pyrene	114 DIL	(10 - 218)			SW846 8270C
	85 DIL	(10 - 218)	13	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	98 DIL	(12 - 128)			SW846 8270C
	93 DIL	(12 - 128)	5.8	(0-50)	SW846 8270C
1,4-Dichlorobenzene	92 DIL	(18 - 110)			SW846 8270C
	77 DIL	(18 - 110)	18	(0-59)	SW846 8270C
Pentachlorophenol	57 DIL	(10 - 144)			SW846 8270C
	65 DIL	(10 - 144)	12	(0-87)	SW846 8270C
Phenol	82 DIL	(10 - 148)			SW846 8270C
	83 DIL	(10 - 148)	2.0	(0-50)	SW846 8270C
2-Chlorophenol	77 DIL	(17 - 116)			SW846 8270C
	73 DIL	(17 - 116)	5.6	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	85 DIL	(17 - 128)			SW846 8270C
	73 DIL	(17 - 128)	16	(0-55)	SW846 8270C
4-Nitrophenol	74 DIL	(10 - 148)			SW846 8270C
	77 DIL	(10 - 148)	4.0	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	78 DIL	(42 - 110)
	80 DIL	(42 - 110)
2-Fluorobiphenyl	83 DIL	(43 - 110)
	84 DIL	(43 - 110)
Terphenyl-d14	89 DIL	(37 - 137)
	103 DIL	(37 - 137)
Phenol-d5	72 DIL	(25 - 115)
	80 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
	63 DIL	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A070170      Work Order #...: G185L1AJ-MS      Matrix.....: SO  
MS Lot-Sample #: A5A070170-005      G185L1AK-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	54 DIL 71 DIL	(35 - 116) (35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: A5A070170

Matrix.....: WATER

Date Sampled....: 01/06/05 09:41 Date Received...: 01/07/05

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>RPD</u> <u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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MS Lot-Sample #: A5A070216-002 Prep Batch #....: 5010015

Arsenic	98	(75 - 125)			SW846 6010B	01/10/05	G19HA1C2
	99	(75 - 125)	1.6	(0-20)	SW846 6010B	01/10/05	G19HA1C3

Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A070170

Matrix.....: SO

Date Sampled...: 01/06/05 13:57 Date Received...: 01/07/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A5A070170-005 Prep Batch #...: 5011021</b>							
Arsenic	79	(75 - 125)			SW846 6010B	01/11-01/12/05	G185L1AG
	80	(75 - 125)	1.4	(0-20)	SW846 6010B	01/11-01/12/05	G185L1AH
Dilution Factor: 1							

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TCLP Metals**

Client Lot #...: A5A070170

Matrix.....: SOLID

Date Sampled...: 01/04/05 16:30 Date Received...: 01/07/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5A070199-003 Prep Batch #...: 5012016

Leach Date.....: 01/10/05 Leach Batch #...: P501008

Arsenic	97	(50 - 150)			SW846 6010B	01/12/05	G19EE1AT
	98	(50 - 150)	0.53	(0-20)	SW846 6010B	01/12/05	G19EE1AU

Dilution Factor: 5

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A5A070170

Work Order #...: G18HR-SMP  
G18HR-DUP

Matrix.....: SOLID

Date Sampled...: 01/05/05 11:24 Date Received...: 01/07/05

% Moisture.....: 11

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	88.7	92.5	%	4.2	(0-20)	SD Lot-Sample #: A5A070101-001 MCAWW 160.3 MOD	01/11-01/12/05	5011325
			Dilution Factor: 1					





**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

**CHAIN-OF-CUSTODY RECORD**

REFERENCE NUMBER:  
19023-84

PROJECT NAME:

Wendgen Manufactured Gas and Colic Plant

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: P. Tesh P. Hall

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
						Total Alkalis Total SVOCs Total VOCs Site Specific SVOCs	

	07-06-05	14 45	S-010605-PP-009	Soil	2	X X X	Category 2-6
	07-06-05	14 35	S-010605-PP-011	Soil	2	X X X	Category 2-7
	07-06-05	13 50	S-010605-PP-144	Soil	2	X X	Siteball verification
	07-06-05	13 50	S-010605-PP-145	Soil	2	X X	Siteball verification
	07-06-05	13 57	S-010605-PP-146	Soil	2	X X	M5/M5D
	07-06-05	14 03	S-010605-PP-147	Soil	1	X X	Siteball verification
	07-06-05	14 09	S-010605-PP-148	Soil	1	X X	↓
	07-06-05	15 15	W-010605-PP-149	water	3	X X	
	07-06-05	14 17	S-010605-PP-150	Soil	2	X X	Siteball verification
	07-06-05	14 25	S-010605-PP-150	Soil	2	X X	↓
<b>TOTAL NUMBER OF CONTAINERS</b>					15		

RELINQUISHED BY: *[Signature]* DATE: 1-6-05 RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: 17 00 RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

METHOD OF SHIPMENT: FED EX AIR BILL No. \_\_\_\_\_

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: P. P. Hall

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 1-7-05 TIME: 10:30

12252

**STL Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: ASA 10140

Client: CRA  
 Cooler Received on: 1-7-05

Project: \_\_\_\_\_  
 Opened on: 1-7-05

Quote#: \_\_\_\_\_  
 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# K732 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 1.6 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials
<u>500</u>	<u>2</u>	<u>1-7-05</u>	<u>[Signature]</u>



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN GAS & COKE PLANT SITE

Lot #: A5A110207

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

January 20, 2005

## **CASE NARRATIVE**

A5A110207

The following report contains the analytical results for four solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Gas & Coke Plant Site, project number 019023-84. The samples were received January 11, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 19, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 3.4°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Sample S-011005-PP-013 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

*\* for analyses run on TJA Trace ICP only*

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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### **STL North Canton, Certifications and Approvals:**

*California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (# E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence*

*Revision 10, 10/12/04  
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# EXECUTIVE SUMMARY - Detection Highlights

A5A110207

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-011005-PP-151 01/10/05 11:00 001</b>				
Arsenic	8.8	1.5	mg/kg	SW846 6010B
Percent Solids	67.3	10.0	%	MCAWW 160.3 MOD
<b>S-011005-PP-152 01/10/05 11:05 002</b>				
Arsenic	4.2	1.3	mg/kg	SW846 6010B
Percent Solids	77.0	10.0	%	MCAWW 160.3 MOD
<b>S-011005-PP-153 01/10/05 11:15 003</b>				
Arsenic	8.1	1.3	mg/kg	SW846 6010B
Percent Solids	77.3	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5A110207

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5A110207

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G2EHT	001	S-011005-PP-151	01/10/05	11:00
G2EH0	002	S-011005-PP-152	01/10/05	11:05
G2EH1	003	S-011005-PP-153	01/10/05	11:15
G2EH3	004	S-011005-PP-013	01/10/05	11:30
G2EH6	005	W-011005-PP-501	01/10/05	12:15

## NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-151

GC/MS Semivolatiles

Lot-Sample #....: A5A110207-001    Work Order #....: G2EHT1AD    Matrix.....: SO  
 Date Sampled...: 01/10/05 11:00    Date Received...: 01/11/05  
 Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Prep Batch #....: 5011303  
 Dilution Factor: 1  
 % Moisture.....: 33    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	490	ug/kg
Benzo (a) pyrene	ND	490	ug/kg
Dibenz (a, h) anthracene	ND	490	ug/kg
Dibenzofuran	ND	490	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	490	ug/kg
4-Methylphenol	ND	490	ug/kg
Naphthalene	ND	490	ug/kg
Benzo (a) anthracene	ND	490	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	81	(42 - 110)
2-Fluorobiphenyl	59	(43 - 110)
Terphenyl-d14	75	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	68	(11 - 116)
2,4,6-Tribromophenol	78	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-151

TOTAL Metals

Lot-Sample #...: A5A110207-001

Matrix.....: SO

Date Sampled...: 01/10/05 11:00 Date Received...: 01/11/05

% Moisture.....: 33

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5012018						
Arsenic	8.8	1.5	mg/kg	SW846 6010B	01/12-01/13/05	G2EHT1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-151

General Chemistry

Lot-Sample #...: A5A110207-001    Work Order #...: G2EHT    Matrix.....: SO  
Date Sampled...: 01/10/05 11:00    Date Received...: 01/11/05  
% Moisture.....: 33

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	67.3	10.0	%	MCAWW 160.3 MOD	01/12-01/13/05	5013077

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-152

GC/MS Semivolatiles

Lot-Sample #...: A5A110207-002    Work Order #...: G2EH01AD    Matrix.....: SO  
 Date Sampled...: 01/10/05 11:05    Date Received...: 01/11/05  
 Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
 Prep Batch #...: 5011303  
 Dilution Factor: 1  
 % Moisture.....: 23    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	430	ug/kg
Benzo (a) pyrene	ND	430	ug/kg
Dibenz (a, h) anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno (1, 2, 3 -cd) pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo (a) anthracene	ND	430	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	54	(43 - 110)
Terphenyl-d14	61	(37 - 137)
Phenol-d5	61	(25 - 115)
2-Fluorophenol	58	(11 - 116)
2,4,6-Tribromophenol	54	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-152

TOTAL Metals

Lot-Sample #...: A5A110207-002

Matrix.....: SO

Date Sampled...: 01/10/05 11:05 Date Received...: 01/11/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5012018						
Arsenic	4.2	1.3	mg/kg	SW846 6010B	01/12-01/13/05	G2EH01AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-152

General Chemistry

Lot-Sample #...: A5A110207-002    Work Order #...: G2EH0    Matrix.....: SO  
Date Sampled...: 01/10/05 11:05    Date Received...: 01/11/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.0	10.0	%	MCAWW 160.3 MOD	01/12-01/13/05	5013077

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-153

GC/MS Semivolatiles

Lot-Sample #....: A5A110207-003    Work Order #....: G2EH11AD    Matrix.....: SO  
Date Sampled...: 01/10/05 11:15    Date Received...: 01/11/05  
Prep Date.....: 01/11/05    Analysis Date...: 01/12/05  
Prep Batch #....: 5011303  
Dilution Factor: 1  
% Moisture.....: 23    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b) fluoranthene	ND	430	ug/kg
Benzo(a)pyrene	ND	430	ug/kg
Dibenz(a,h)anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno(1,2,3-cd)pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo(a)anthracene	ND	430	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	80	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	66	(25 - 115)
2-Fluorophenol	64	(11 - 116)
2,4,6-Tribromophenol	59	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-153

TOTAL Metals

Lot-Sample #...: A5A110207-003

Matrix.....: SO

Date Sampled...: 01/10/05 11:15 Date Received...: 01/11/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5012018						
Arsenic	8.1	1.3	mg/kg	SW846 6010B	01/12-01/13/05	G2EH11AC

Dilution Factor: 1

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-153

General Chemistry

Lot-Sample #...: A5A110207-003    Work Order #...: G2EH1    Matrix.....: SO  
Date Sampled...: 01/10/05 11:15    Date Received...: 01/11/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.3	10.0	%	MCAWW 160.3 MOD	01/12-01/13/05	5013077

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-013

TCLP GC/MS Volatiles

Lot-Sample #...: A5A110207-004    Work Order #...: G2EH31AA    Matrix.....: SO  
 Date Sampled...: 01/10/05 11:30    Date Received...: 01/11/05  
 Leach Date.....: 01/12/05    Prep Date.....: 01/14/05    Analysis Date...: 01/14/05  
 Leach Batch #...: P501205    Prep Batch #...: 5017120  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	110	(86 - 125)
1,2-Dichloroethane-d4	98	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	85	(84 - 125)

**NOTE (S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-013

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A110207-004    Work Order #...: G2EH31AD    Matrix.....: SO  
 Date Sampled...: 01/10/05 11:30    Date Received...: 01/11/05  
 Leach Date.....: 01/13/05    Prep Date.....: 01/14/05    Analysis Date...: 01/17/05  
 Leach Batch #...: P501307    Prep Batch #...: 5014199  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	56	(30 - 110)
Terphenyl-d14	70	(10 - 144)
Phenol-d5	27	(10 - 113)
2-Fluorophenol	17	(13 - 110)
2,4,6-Tribromophenol	18 *	(21 - 122)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011005-PP-013

TCLP Metals

Lot-Sample #....: A5A110207-004

Matrix.....: SO

Date Sampled...: 01/10/05 11:30 Date Received...: 01/11/05

Leach Date.....: 01/13/05 Leach Batch #...: P501307

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #....: 5017013						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17-01/18/05	G2EH31AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-011005-PP-501

GC/MS Semivolatiles

Lot-Sample #....: A5A110207-005    Work Order #....: G2EH61AC    Matrix.....: WG  
 Date Sampled....: 01/10/05 12:15    Date Received...: 01/11/05  
 Prep Date.....: 01/11/05    Analysis Date...: 01/13/05  
 Prep Batch #....: 5011309  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	65	(32 - 112)
2-Fluorobiphenyl	56	(30 - 110)
Terphenyl-d14	90	(10 - 144)
Phenol-d5	62	(10 - 113)
2-Fluorophenol	59	(13 - 110)
2,4,6-Tribromophenol	55	(21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-011005-PP-501

TOTAL Metals

Lot-Sample #...: A5A110207-005

Matrix.....: WG

Date Sampled...: 01/10/05 12:15 Date Received...: 01/11/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5012012						
Arsenic	ND	0.010	mg/L	SW846 6010B	01/12/05	G2EH61AA
		Dilution Factor: 1				

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A110207  
 MB Lot-Sample #: A5A120000-201  
 Leach Date.....: 01/12/05  
 Leach Batch #...: P501205  
 Dilution Factor: 1

Work Order #...: G2F0G1AA  
 Prep Date.....: 01/13/05  
 Prep Batch #...: 5017120

Matrix.....: SOLID  
 Analysis Date...: 01/13/05

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	108	(86 - 125)
1,2-Dichloroethane-d4	99	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	88	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207  
 MB Lot-Sample #: A5A110000-303  
 Analysis Date...: 01/12/05  
 Dilution Factor: 1

Work Order #...: G2EMT1AA  
 Prep Date.....: 01/11/05  
 Prep Batch #...: 5011303

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzo(a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	91	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	81	(25 - 115)
2-Fluorophenol	81	(11 - 116)
2,4,6-Tribromophenol	74	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207  
 MB Lot-Sample #: A5A110000-309

Work Order #...: G2EMX1AA

Matrix.....: WATER

Prep Date.....: 01/11/05

Prep Batch #...: 5011309

Analysis Date...: 01/13/05

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzo (a) anthracene	ND	10	ug/L	SW846 8270C
Benzo (b) fluoranthene	ND	10	ug/L	SW846 8270C
Benzo (a) pyrene	ND	10	ug/L	SW846 8270C
Dibenz (a, h) anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	56	(32 - 112)
2-Fluorobiphenyl	51	(30 - 110)
Terphenyl-d14	80	(10 - 144)
Phenol-d5	57	(10 - 113)
2-Fluorophenol	51	(13 - 110)
2,4,6-Tribromophenol	47	(21 - 122)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #....: A5A110207  
 MB Lot-Sample #: A5A140000-199  
 Leach Date.....: 01/13/05  
 Leach Batch #...: P501307  
 Dilution Factor: 1

Work Order #....: G2K721AA  
 Prep Date.....: 01/14/05  
 Prep Batch #....: 5014199

Matrix.....: SOLID  
 Analysis Date...: 01/17/05

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
Terphenyl-d14	78	(10 - 144)
Phenol-d5	70	(10 - 113)
2-Fluorophenol	69	(13 - 110)
2,4,6-Tribromophenol	81	(21 - 122)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #....: A5A110207

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A5A120000-012				Prep Batch #....: 5012012		
Arsenic	ND	0.010	mg/L	SW846 6010B	01/12/05	G2E8F1AK
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A5A120000-018				Prep Batch #...: 5012018		
Arsenic	ND	1.0	mg/kg	SW846 6010B	01/12-01/13/05	G2E8R1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5A130000-199	Prep Batch #...:	5017013			
Leach Date.....:	01/13/05	Leach Batch #...:	P501307			
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17/05	G2HVE1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #: A5A170000-013 Prep Batch #...: 5017013</b>						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17/05	G2N711AU
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G2HH81AA		MB Lot-Sample #:	A5A130000-077	
		10.0	%	MCAWW 160.3 MOD	01/12-01/13/05	5013077
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #...: A5A110207      Work Order #...: G2PHX1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A170000-120      G2PHX1AC-LCSD  
 Prep Date.....: 01/13/05      Analysis Date...: 01/13/05  
 Prep Batch #...: 5017120  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	100	(76 - 118)			SW846 8260B
	101	(76 - 118)	0.79	(0-30)	SW846 8260B
Chlorobenzene	104	(76 - 113)			SW846 8260B
	104	(76 - 113)	0.65	(0-30)	SW846 8260B
1,1-Dichloroethylene	107	(67 - 128)			SW846 8260B
	108	(67 - 128)	1.3	(0-30)	SW846 8260B
Trichloroethylene	114	(76 - 119)			SW846 8260B
	112	(76 - 119)	1.7	(0-30)	SW846 8260B
Toluene	103	(72 - 117)			SW846 8260B
	103	(72 - 117)	0.27	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	106	(86 - 124)
	107	(86 - 124)
1,2-Dichloroethane-d4	96	(80 - 122)
	100	(80 - 122)
Toluene-d8	105	(90 - 122)
	104	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)
	97	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A5A110207      Work Order #...: G2EMT1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A110000-303      G2EMT1AD-LCSD  
 Prep Date.....: 01/11/05      Analysis Date...: 01/12/05  
 Prep Batch #...: 5011303  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	80	(45 - 110)			SW846 8270C
	76	(45 - 110)	5.6	(0-54)	SW846 8270C
Acenaphthene	76	(44 - 110)			SW846 8270C
	74	(44 - 110)	2.6	(0-44)	SW846 8270C
2,4-Dinitrotoluene	92	(48 - 111)			SW846 8270C
	88	(48 - 111)	4.2	(0-45)	SW846 8270C
Pyrene	82	(42 - 122)			SW846 8270C
	76	(42 - 122)	7.4	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	108	(38 - 110)			SW846 8270C
	97	(38 - 110)	10	(0-50)	SW846 8270C
1,4-Dichlorobenzene	90	(38 - 110)			SW846 8270C
	84	(38 - 110)	6.9	(0-59)	SW846 8270C
Pentachlorophenol	40	(10 - 123)			SW846 8270C
	33	(10 - 123)	19	(0-87)	SW846 8270C
Phenol	87	(35 - 110)			SW846 8270C
	78	(35 - 110)	11	(0-50)	SW846 8270C
2-Chlorophenol	80	(43 - 110)			SW846 8270C
	70	(43 - 110)	13	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	94	(43 - 110)			SW846 8270C
	87	(43 - 110)	8.0	(0-55)	SW846 8270C
4-Nitrophenol	94	(22 - 128)			SW846 8270C
	90	(22 - 128)	3.9	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	92	(42 - 110)
	93	(42 - 110)
2-Fluorobiphenyl	78	(43 - 110)
	71	(43 - 110)
Terphenyl-d14	87	(37 - 137)
	79	(37 - 137)
Phenol-d5	92	(25 - 115)
	81	(25 - 115)
2-Fluorophenol	90	(11 - 116)
	79	(11 - 116)
2,4,6-Tribromophenol	91	(35 - 116)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207      Work Order #...: G2EMT1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5A110000-303      G2EMT1AD-LCSD

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
	83	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A5A110207      Work Order #...: G2EMX1AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5A110000-309  
 Prep Date.....: 01/11/05      Analysis Date...: 01/13/05  
 Prep Batch #...: 5011309  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	56	(31 - 110)	SW846 8270C
Acenaphthene	75	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	79	(47 - 131)	SW846 8270C
Pyrene	86	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl-amine	96	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	66	(28 - 110)	SW846 8270C
Pentachlorophenol	34	(10 - 140)	SW846 8270C
Phenol	78	(10 - 131)	SW846 8270C
2-Chlorophenol	77	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	73	(29 - 124)	SW846 8270C
4-Nitrophenol	52	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
Terphenyl-d14	87	(10 - 144)
Phenol-d5	81	(10 - 113)
2-Fluorophenol	73	(13 - 110)
2,4,6-Tribromophenol	64	(21 - 122)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #....: A5A110207      Work Order #....: G2K721AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A140000-199      G2K721AD-LCSD  
 Prep Date.....: 01/14/05      Analysis Date...: 01/17/05  
 Prep Batch #....: 5014199  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
o-Cresol	72	(33 - 115)			SW846 8270C
	78	(33 - 115)	8.0	(0-31)	SW846 8270C
m-Cresol & p-Cresol	85	(46 - 109)			SW846 8270C
	75	(46 - 109)	13	(0-32)	SW846 8270C
1,4-Dichlorobenzene	93	(28 - 110)			SW846 8270C
	78	(28 - 110)	17	(0-36)	SW846 8270C
2,4-Dinitrotoluene	84	(47 - 131)			SW846 8270C
	79	(47 - 131)	5.5	(0-32)	SW846 8270C
Hexachlorobenzene	84	(57 - 128)			SW846 8270C
	80	(57 - 128)	6.0	(0-22)	SW846 8270C
Hexachlorobutadiene	70	(36 - 116)			SW846 8270C
	71	(36 - 116)	1.5	(0-32)	SW846 8270C
Hexachloroethane	80	(30 - 110)			SW846 8270C
	76	(30 - 110)	4.2	(0-33)	SW846 8270C
Nitrobenzene	78	(45 - 130)			SW846 8270C
	78	(45 - 130)	0.59	(0-50)	SW846 8270C
Pentachlorophenol	78	(10 - 140)			SW846 8270C
	86	(10 - 140)	9.1	(0-56)	SW846 8270C
Pyridine	70	(10 - 148)			SW846 8270C
	77	(10 - 148)	9.5	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	76	(41 - 125)			SW846 8270C
	73	(41 - 125)	3.8	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	73	(46 - 135)			SW846 8270C
	70	(46 - 135)	4.4	(0-27)	SW846 8270C
Cresols (total)	81	(46 - 109)			SW846 8270C
	76	(46 - 109)	6.3	(0-32)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	79	(32 - 112)
	77	(32 - 112)
2-Fluorobiphenyl	68	(30 - 110)
	65	(30 - 110)
Terphenyl-d14	85	(10 - 144)
	75	(10 - 144)
Phenol-d5	64	(10 - 113)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A110207

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A120000-012	Prep Batch #...	5012012		
Arsenic	97	(80 - 120)	SW846 6010B	01/12/05	G2E8F1AN
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A120000-018	Prep Batch #...:	5012018		
Arsenic	85	(80 - 120)	SW846 6010B	01/12-01/13/05	G2E8R1AC
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A170000-013	Prep Batch #...:	5017013		
Arsenic	98	(50 - 150)	SW846 6010B	01/17/05	G2N711A3
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A110207      Work Order #...: G19DJ1AW-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5A070193-022      G19DJ1AX-MSD  
 Date Sampled...: 01/06/05 14:40      Date Received...: 01/07/05  
 Leach Date.....: 01/12/05      Prep Date.....: 01/13/05      Analysis Date...: 01/13/05  
 Leach Batch #...: P501205      Prep Batch #...: 5017120  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	99	(76 - 117)			SW846 8260B
	99	(76 - 117)	0.29	(0-30)	SW846 8260B
Chlorobenzene	104	(72 - 114)			SW846 8260B
	102	(72 - 114)	1.1	(0-30)	SW846 8260B
1,1-Dichloroethylene	107	(67 - 129)			SW846 8260B
	103	(67 - 129)	3.8	(0-30)	SW846 8260B
Trichloroethylene	108	(72 - 121)			SW846 8260B
	110	(72 - 121)	2.1	(0-30)	SW846 8260B
Toluene	102	(67 - 113)			SW846 8260B
	101	(67 - 113)	0.92	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	106	(86 - 125)
	107	(86 - 125)
1,2-Dichloroethane-d4	93	(80 - 122)
	91	(80 - 122)
Toluene-d8	105	(90 - 122)
	105	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)
	95	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207      Work Order #...: G2CJ11AF-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5A100121-007      G2CJ11AG-MSD  
 Date Sampled...: 01/07/05 12:00      Date Received...: 01/10/05  
 Prep Date.....: 01/11/05      Analysis Date...: 01/13/05  
 Prep Batch #...: 5011309  
 Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,2,4-Trichlorobenzene	50	(22 - 110)			SW846 8270C
	50	(22 - 110)	1.1	(0-37)	SW846 8270C
Acenaphthene	74	(26 - 118)			SW846 8270C
	67	(26 - 118)	9.2	(0-35)	SW846 8270C
2,4-Dinitrotoluene	85	(31 - 131)			SW846 8270C
	75	(31 - 131)	12	(0-32)	SW846 8270C
Pyrene	87	(27 - 138)			SW846 8270C
	79	(27 - 138)	9.1	(0-31)	SW846 8270C
N-Nitrosodi-n-propylamine	86	(18 - 115)			SW846 8270C
	82	(18 - 115)	5.4	(0-36)	SW846 8270C
1,4-Dichlorobenzene	58	(18 - 110)			SW846 8270C
	54	(18 - 110)	8.2	(0-36)	SW846 8270C
Pentachlorophenol	50	(10 - 140)			SW846 8270C
	48	(10 - 140)	5.3	(0-56)	SW846 8270C
Phenol	66	(10 - 131)			SW846 8270C
	61	(10 - 131)	7.7	(0-43)	SW846 8270C
2-Chlorophenol	66	(19 - 124)			SW846 8270C
	60	(19 - 124)	9.4	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	68	(21 - 124)			SW846 8270C
	64	(21 - 124)	4.9	(0-55)	SW846 8270C
4-Nitrophenol	66	(10 - 145)			SW846 8270C
	59	(10 - 145)	11	(0-34)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70	(32 - 112)
	67	(32 - 112)
2-Fluorobiphenyl	66	(30 - 110)
	64	(30 - 110)
Terphenyl-d14	84	(10 - 144)
	77	(10 - 144)
Phenol-d5	66	(10 - 113)
	60	(10 - 113)
2-Fluorophenol	59	(13 - 110)
	55	(13 - 110)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207      Work Order #...: G2CJ11AF-MS      Matrix.....: WATER  
MS Lot-Sample #: A5A100121-007      G2CJ11AG-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	55	(21 - 122)
	50	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207      Work Order #...: G2D2W1FQ-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5A110141-001      G2D2W1FR-MSD  
 Date Sampled...: 01/10/05 12:20      Date Received...: 01/11/05  
 Prep Date.....: 01/11/05      Analysis Date...: 01/13/05  
 Prep Batch #...: 5011309  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	53	(22 - 110)			SW846 8270C
	51	(22 - 110)	2.3	(0-37)	SW846 8270C
Acenaphthene	77	(26 - 118)			SW846 8270C
	77	(26 - 118)	0.50	(0-35)	SW846 8270C
2,4-Dinitrotoluene	86	(31 - 131)			SW846 8270C
	84	(31 - 131)	2.1	(0-32)	SW846 8270C
Pyrene	89	(27 - 138)			SW846 8270C
	90	(27 - 138)	1.2	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl-amine	96	(18 - 115)			SW846 8270C
	92	(18 - 115)	3.8	(0-36)	SW846 8270C
1,4-Dichlorobenzene	60	(18 - 110)			SW846 8270C
	58	(18 - 110)	4.0	(0-36)	SW846 8270C
Pentachlorophenol	51	(10 - 140)			SW846 8270C
	56	(10 - 140)	8.9	(0-56)	SW846 8270C
Phenol	75	(10 - 131)			SW846 8270C
	70	(10 - 131)	6.9	(0-43)	SW846 8270C
2-Chlorophenol	76	(19 - 124)			SW846 8270C
	68	(19 - 124)	12	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	77	(21 - 124)			SW846 8270C
	77	(21 - 124)	0.63	(0-55)	SW846 8270C
4-Nitrophenol	61	(10 - 145)			SW846 8270C
	66	(10 - 145)	7.8	(0-34)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	80	(32 - 112)
	75	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
	71	(30 - 110)
Terphenyl-d14	89	(10 - 144)
	90	(10 - 144)
Phenol-d5	77	(10 - 113)
	72	(10 - 113)
2-Fluorophenol	72	(13 - 110)
	66	(13 - 110)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A110207      Work Order #...: G2D2W1FQ-MS      Matrix.....: WATER  
MS Lot-Sample #: A5A110141-001      G2D2W1FR-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	69	(21 - 122)
	70	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #....: A5A110207

Matrix.....: WATER

Date Sampled....: 01/11/05 11:10 Date Received...: 01/11/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A5A110190-001 Prep Batch #....: 5012012</b>							
Arsenic	102	(75 - 125)			SW846 6010B	01/12/05	G2EF21AW
	100	(75 - 125)	2.5	(0-20)	SW846 6010B	01/12/05	G2EF21AX

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #....: A5A110207

Matrix.....: SO

Date Sampled....: 01/10/05 11:00 Date Received...: 01/11/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5A110207-001 Prep Batch #....: 5012018

Arsenic	81	(75 - 125)			SW846 6010B	01/12-01/13/05	G2EHT1AE
	82	(75 - 125)	0.51	(0-20)	SW846 6010B	01/12-01/13/05	G2EHT1AF

Dilution Factor: 1

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5A110207

Matrix.....: SOLID

Date Sampled...: 12/17/04 11:00 Date Received...: 12/18/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5A110120-001 Prep Batch #...: 5017013

Leach Date.....: 01/13/05 Leach Batch #...: P501307

Arsenic	100	(50 - 150)			SW846 6010B	01/17-01/18/05	G2DXD1A5
	102	(50 - 150)	1.9	(0-20)	SW846 6010B	01/17-01/18/05	G2DXD1A6

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #....: A5A110207

Work Order #....: G17RA-SMP  
G17RA-DUP

Matrix.....: SOLID

Date Sampled....: 12/28/04 09:30 Date Received...: 01/06/05

% Moisture.....: 21

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.6	%	0.97	(0-20)	SD Lot-Sample #: A5A060244-007 MCAWW 160.3 MOD	01/12-01/13/05	5013077
78.8							

Dilution Factor: 1

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #....: A5A110207

Work Order #....: G19W6-SMP  
G19W6-DUP

Matrix.....: SOLID

Date Sampled...: 12/13/04 12:26 Date Received...: 12/15/04

% Moisture.....: 23

<u>PARAM RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.4	80.4	%	3.8	(0-20)	SD Lot-Sample #: A5A070293-002 MCAWW 160.3 MOD 01/12-01/13/05	5013077
Dilution Factor: 1							



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

**CHAIN-OF-CUSTODY RECORD**

REFERENCE NUMBER:  
019023-84

PROJECT NAME:

Waukegan Manufactured Gas & Coke Plant Site

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Pitish Pathak*

PARAMETERS:  
Total Arsenic  
Site Specific  
HCLP VOCs  
HCLP SVOCs  
HCLP Arsenic

REMARKS

SEQ. NO.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	# OF CONTAINERS	REMARKS
	01/02/05	11:00	S-011005-PP-151	Soil	1	X
	01/02/05	11:05	S-011005-PP-152	Soil	1	X
	01/02/05	11:15	S-011005-PP-153	Soil	1	X
			<del>S-011005-PP-154</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
			<del>S-011005-PP-155</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
			<del>S-011005-PP-156</del>	<del>Soil</del>	<del>2</del>	<del>X</del>
			<del>S-011005-PP-157</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
			<del>S-011005-PP-158</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
			<del>S-011005-PP-159</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
			<del>S-011005-PP-160</del>	<del>Soil</del>	<del>1</del>	<del>X</del>
	01/02/05	11:30	S-011005-PP-013	Soil	2	X X
	01/02/05	12:15	W-011005-PP-501	Water	3	X X

TOTAL NUMBER OF CONTAINERS

8

RELINQUISHED BY: *[Signature]* DATE: 1/10/05 RECEIVED BY: *[Signature]* DATE: 1/13/05

RELINQUISHED BY: *[Signature]* DATE: TIME: RECEIVED BY: *[Signature]* DATE: TIME:

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

METHOD OF SHIPMENT: **FEDEX**

AIR BILL NO.

- White - Fully Executed Copy
- Yellow - Receiving Laboratory Copy
- Pink - Shipper Copy
- Goldenrod - Sampler Copy

SAMPLE TEAM:

*P. PATHAK*

RECEIVED FOR LABORATORY BY:

*[Signature]*

12253

DATE: 1-11-05 TIME: 9:50

**STL Cooler Receipt Form/Narrative**

Lot Number: ASA110207

**North Canton Facility**

Client: CRA Project: Whiskogen Manufacturing Quote#: 44599  
 Cooler Received on: 1-11-05 Opened on: 1-11-05 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# K560 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 3, 4 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials
<u>501</u>	<u>2</u>	<u>1-11-05</u>	<u>[Signature]</u>



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

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www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MAN.GAS/COKE PLT SITE

Lot #: A5A130138

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

January 26, 2005

## **CASE NARRATIVE**

A5A130138

The following report contains the analytical results for nine solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the WAUKEGAN MAN.GAS/COKE PLT Site, project number 019023-84. The samples were received January 13, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on January 20, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 18.3°C with no coolant present.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Sample(s) S-011205-PP-156 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL), the analytes were greater than 10 times the blank level for organics or 20 times for inorganics, or the associated sample(s) must be ND except for the common laboratory contaminants indicated below.

<u>Volatile (GC or GC/MS)</u>	<u>Semivolatile (GC/MS)</u>	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		Lead*

\* for analyses run on TJA Trace ICP only

The listed volatile and semivolatile compounds may be present in concentrations up to 5 times the reporting limits. Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria does not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike for inorganics.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample are spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If the surrogate recoveries are outside criteria for environmental or MS/MSD samples, the batch is acceptable if the Method Blank, LCS, and LCSD surrogate recoveries are within acceptance criteria. The only exception is if the surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank and the associated sample(s) are ND, the batch is acceptable. If the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide/PCB and PAH methods, the surrogate criteria is that one of two surrogate compounds meet acceptance criteria.

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### **STL North Canton, Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Georgia (None), Illinois (#100439), Kansas (#E-10336), Louisiana (#04112), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence

Revision 10, 10/12/04  
n:\qaqc\narrativ\stl.doc

# EXECUTIVE SUMMARY - Detection Highlights

A5A130138

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-011205-PP-154 01/12/05 09:41 001</b>				
Arsenic	1.8	1.2	mg/kg	SW846 6010B
Percent Solids	82.2	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-155 01/12/05 09:41 002</b>				
Arsenic	3.0	1.2	mg/kg	SW846 6010B
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-156 01/12/05 09:44 003</b>				
Arsenic	6.1	1.2	mg/kg	SW846 6010B
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-157 01/12/05 09:51 004</b>				
Arsenic	3.1	1.1	mg/kg	SW846 6010B
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-158 01/12/05 09:52 005</b>				
Arsenic	1.6	1.1	mg/kg	SW846 6010B
Benzo(a)anthracene	370	350	ug/kg	SW846 8270C
Percent Solids	95.0	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-159 01/12/05 12:41 007</b>				
Arsenic	6.0	1.2	mg/kg	SW846 6010B
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-160 01/12/05 12:46 008</b>				
Arsenic	72.7	1.4	mg/kg	SW846 6010B
Benzo(b)fluoranthene	25000	9200	ug/kg	SW846 8270C
Benzo(a)pyrene	19000	9200	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	9200	9200	ug/kg	SW846 8270C
Benzo(a)anthracene	29000	9200	ug/kg	SW846 8270C
Percent Solids	71.7	10.0	%	MCAWW 160.3 MOD
<b>S-011205-PP-161 01/12/05 12:55 009</b>				
Arsenic	5.8	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3400	1500	ug/kg	SW846 8270C
Benzo(a)pyrene	2900	1500	ug/kg	SW846 8270C

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5A130138

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-011205-PP-161 01/12/05 12:55 009				
Benzo(a)anthracene	3900	1500	ug/kg	SW846 8270C
Percent Solids	86.9	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5A130138

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

ASA130138

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G2HRT	001	S-011205-PP-154	01/12/05	09:41
G2HR0	002	S-011205-PP-155	01/12/05	09:41
G2HR3	003	S-011205-PP-156	01/12/05	09:44
G2HR5	004	S-011205-PP-157	01/12/05	09:51
G2HR7	005	S-011205-PP-158	01/12/05	09:52
G2HR8	006	S-011205-PP-015	01/12/05	13:08
G2HTA	007	S-011205-PP-159	01/12/05	12:41
G2HTD	008	S-011205-PP-160	01/12/05	12:46
G2HTF	009	S-011205-PP-161	01/12/05	12:55

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-154

GC/MS Semivolatiles

Lot-Sample #...: A5A130138-001    Work Order #...: G2HRT1AD    Matrix.....: SO  
 Date Sampled...: 01/12/05 09:41    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 18    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	400	ug/kg
Benzo (a) pyrene	ND	400	ug/kg
Dibenz (a, h) anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo (a) anthracene	ND	400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(42 - 110)
2-Fluorobiphenyl	60	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	64	(25 - 115)
2-Fluorophenol	62	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-154

TOTAL Metals

Lot-Sample #...: A5A130138-001

Matrix.....: SO

Date Sampled...: 01/12/05 09:41 Date Received...: 01/13/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	1.8	1.2	mg/kg	SW846 6010B	01/14/05	G2HRT1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-154

General Chemistry

Lot-Sample #...: A5A130138-001    Work Order #...: G2HRT    Matrix.....: SO  
Date Sampled...: 01/12/05 09:41    Date Received...: 01/13/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.2	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-155

GC/MS Semivolatiles

Lot-Sample #...: A5A130138-002    Work Order #...: G2HR01AD    Matrix.....: SO  
 Date Sampled...: 01/12/05 09:41    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 19    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b) fluoranthene	ND	410	ug/kg
Benzo(a) pyrene	ND	410	ug/kg
Dibenz(a,h) anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd) pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
Benzo(a) anthracene	ND	410	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	72	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	66	(11 - 116)
2,4,6-Tribromophenol	62	(35 - 116)

**NOTE(S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-155

TOTAL Metals

Lot-Sample #...: A5A130138-002

Matrix.....: SO

Date Sampled...: 01/12/05 09:41 Date Received...: 01/13/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	3.0	1.2	mg/kg	SW846 6010B	01/14/05	G2HR01AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-155

General Chemistry

Lot-Sample #...: A5A130138-002    Work Order #...: G2HR0    Matrix.....: SO  
Date Sampled...: 01/12/05 09:41    Date Received...: 01/13/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-156

GC/MS Semivolatiles

Lot-Sample #...: A5A130138-003    Work Order #...: G2HR31AF    Matrix.....: SO  
 Date Sampled...: 01/12/05 09:44    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 16    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	390	ug/kg
Benzo (a) pyrene	ND	390	ug/kg
Dibenz (a, h) anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo (a) anthracene	ND	390	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	65	(42 - 110)
2-Fluorobiphenyl	55	(43 - 110)
Terphenyl-d14	64	(37 - 137)
Phenol-d5	56	(25 - 115)
2-Fluorophenol	51	(11 - 116)
2, 4, 6-Tribromophenol	30 *	(35 - 116)

**NOTE(S) :**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-156

TOTAL Metals

Lot-Sample #...: A5A130138-003

Matrix.....: SO

Date Sampled...: 01/12/05 09:44 Date Received...: 01/13/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	6.1	1.2	mg/kg	SW846 6010B	01/14/05	G2HR31AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-156

General Chemistry

Lot-Sample #....: A5A130138-003    Work Order #....: G2HR3    Matrix.....: SO  
Date Sampled....: 01/12/05 09:44    Date Received...: 01/13/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-157

GC/MS Semivolatiles

Lot-Sample #....: A5A130138-004    Work Order #....: G2HR51AD    Matrix.....: SO  
 Date Sampled....: 01/12/05 09:51    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #....: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 8.3    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	360	ug/kg
Benzo (a) pyrene	ND	360	ug/kg
Dibenz (a, h) anthracene	ND	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	ND	360	ug/kg
Benzo (a) anthracene	ND	360	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67	(42 - 110)
2-Fluorobiphenyl	57	(43 - 110)
Terphenyl-d14	72	(37 - 137)
Phenol-d5	60	(25 - 115)
2-Fluorophenol	49	(11 - 116)
2,4,6-Tribromophenol	46	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-157

TOTAL Metals

Lot-Sample #...: A5A130138-004

Matrix.....: SO

Date Sampled...: 01/12/05 09:51 Date Received...: 01/13/05

% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	3.1	1.1	mg/kg	SW846 6010B	01/14/05	G2HR51AC
		Dilution Factor: 1				

NOTE(S) :

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-157

General Chemistry

Lot-Sample #....: A5A130138-004    Work Order #....: G2HR5    Matrix.....: SO  
Date Sampled....: 01/12/05 09:51    Date Received...: 01/13/05  
% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-158

GC/MS Semivolatiles

Lot-Sample #...: ASA130138-005    Work Order #...: G2HR71AD    Matrix.....: SO  
 Date Sampled...: 01/12/05 09:52    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 5.0    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	350	ug/kg
Benzo (a) pyrene	ND	350	ug/kg
Dibenz (a, h) anthracene	ND	350	ug/kg
Dibenzofuran	ND	350	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	350	ug/kg
4-Methylphenol	ND	350	ug/kg
Naphthalene	ND	350	ug/kg
<b>Benzo (a) anthracene</b>	<b>370</b>	<b>350</b>	<b>ug/kg</b>

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	63	(42 - 110)
2-Fluorobiphenyl	53	(43 - 110)
Terphenyl-d14	66	(37 - 137)
Phenol-d5	55	(25 - 115)
2-Fluorophenol	53	(11 - 116)
2,4,6-Tribromophenol	63	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-158

TOTAL Metals

Lot-Sample #...: A5A130138-005

Matrix.....: SO

Date Sampled...: 01/12/05 09:52 Date Received...: 01/13/05

% Moisture.....: 5.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	1.6	1.1	mg/kg	SW846 6010B	01/14/05	G2HR71AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-158

General Chemistry

Lot-Sample #....: A5A130138-005    Work Order #....: G2HR7    Matrix.....: SO  
Date Sampled....: 01/12/05 09:52    Date Received...: 01/13/05  
% Moisture.....: 5.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	95.0	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-015

TCLP GC/MS Volatiles

Lot-Sample #...: A5A130138-006    Work Order #...: G2HR81AA    Matrix.....: SO  
 Date Sampled...: 01/12/05 13:08    Date Received...: 01/13/05  
 Leach Date.....: 01/17/05    Prep Date.....: 01/19/05    Analysis Date...: 01/19/05  
 Leach Batch #...: P501702    Prep Batch #...: 5018198  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	101	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	105	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)

**NOTE(S) :**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-015

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5A130138-006    Work Order #...: G2HR81AD    Matrix.....: SO  
 Date Sampled...: 01/12/05 13:08    Date Received...: 01/13/05  
 Leach Date.....: 01/13/05    Prep Date.....: 01/14/05    Analysis Date...: 01/17/05  
 Leach Batch #...: P501307    Prep Batch #...: 5014199  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	(32 - 112)
2-Fluorobiphenyl	63	(30 - 110)
Terphenyl-d14	82	(10 - 144)
Phenol-d5	43	(10 - 113)
2-Fluorophenol	25	(13 - 110)
2,4,6-Tribromophenol	28	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-015

TCLP Metals

Lot-Sample #...: A5A130138-006

Matrix.....: SO

Date Sampled...: 01/12/05 13:08 Date Received...: 01/13/05

Leach Date.....: 01/13/05 Leach Batch #...: P501307

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5017013						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17-01/18/05	G2HR81AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-159

GC/MS Semivolatiles

Lot-Sample #....: A5A130138-007    Work Order #....: G2HTA1AD    Matrix.....: SO  
 Date Sampled....: 01/12/05 12:41    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/15/05  
 Prep Batch #....: 5013261  
 Dilution Factor: 1  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	ND	380	ug/kg
Benzo (a) pyrene	ND	380	ug/kg
Dibenz (a, h) anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo (a) anthracene	ND	380	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	73	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	68	(25 - 115)
2-Fluorophenol	64	(11 - 116)
2, 4, 6-Tribromophenol	61	(35 - 116)

**NOTE (S) :**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-159

TOTAL Metals

Lot-Sample #...: A5A130138-007

Matrix.....: SO

Date Sampled...: 01/12/05 12:41 Date Received...: 01/13/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	6.0	1.2	mg/kg	SW846 6010B	01/14/05	G2HTA1AC
		Dilution Factor: 1				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-159

General Chemistry

Lot-Sample #...: A5A130138-007    Work Order #...: G2HTA    Matrix.....: SO  
Date Sampled...: 01/12/05 12:41    Date Received..: 01/13/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-160

GC/MS Semivolatiles

Lot-Sample #...: A5A130138-008    Work Order #...: G2HTD1AD    Matrix.....: SO  
 Date Sampled...: 01/12/05 12:46    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/17/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 20  
 % Moisture.....: 28    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo (b) fluoranthene	25000	9200	ug/kg
Benzo (a) pyrene	19000	9200	ug/kg
Dibenz (a, h) anthracene	ND	9200	ug/kg
Dibenzofuran	ND	9200	ug/kg
Indeno (1, 2, 3-cd) pyrene	9200	9200	ug/kg
4-Methylphenol	ND	9200	ug/kg
Naphthalene	ND	9200	ug/kg
Benzo (a) anthracene	29000	9200	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77 DIL	(42 - 110)
2-Fluorobiphenyl	78 DIL	(43 - 110)
Terphenyl-d14	96 DIL	(37 - 137)
Phenol-d5	58 DIL	(25 - 115)
2-Fluorophenol	49 DIL	(11 - 116)
2,4,6-Tribromophenol	52 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-160

TOTAL Metals

Lot-Sample #...: A5A130138-008

Matrix.....: SO

Date Sampled...: 01/12/05 12:46 Date Received...: 01/13/05

% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	72.7	1.4	mg/kg	SW846 6010B	01/14/05	G2HTD1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-160

General Chemistry

Lot-Sample #...: A5A130138-008    Work Order #...: G2HTD    Matrix.....: SO  
Date Sampled...: 01/12/05 12:46    Date Received...: 01/13/05  
% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	71.7	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-161

GC/MS Semivolatiles

Lot-Sample #....: A5A130138-009    Work Order #....: G2HTF1AD    Matrix.....: SO  
 Date Sampled....: 01/12/05 12:55    Date Received...: 01/13/05  
 Prep Date.....: 01/13/05    Analysis Date...: 01/17/05  
 Prep Batch #....: 5013261  
 Dilution Factor: 4  
 % Moisture.....: 13    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo (b) fluoranthene	3400	1500	ug/kg
Benzo (a) pyrene	2900	1500	ug/kg
Dibenz (a, h) anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno (1, 2, 3-cd) pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	ND	1500	ug/kg
Benzo (a) anthracene	3900	1500	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	70 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	77 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	64 DIL	(11 - 116)
2,4,6-Tribromophenol	67 DIL	(35 - 116)

**NOTE (S) :**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-161

TOTAL Metals

Lot-Sample #...: A5A130138-009

Matrix.....: SO

Date Sampled...: 01/12/05 12:55 Date Received...: 01/13/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5014016						
Arsenic	5.8	1.2	mg/kg	SW846 6010B	01/14/05	G2HTF1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-011205-PP-161

General Chemistry

Lot-Sample #...: A5A130138-009    Work Order #...: G2HTF    Matrix.....: SO  
Date Sampled...: 01/12/05 12:55    Date Received...: 01/13/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.9	10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055

Dilution Factor: 1

SEVERN  
TRENT

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# *QUALITY CONTROL SECTION*

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5A130138  
 MB Lot-Sample #: A5A170000-246  
 Leach Date.....: 01/17/05  
 Leach Batch #...: P501702  
 Dilution Factor: 1

Work Order #...: G2PWR1AA  
 Prep Date.....: 01/18/05  
 Prep Batch #...: 5018198

Matrix.....: SOLID  
 Analysis Date...: 01/18/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(86 - 125)
1,2-Dichloroethane-d4	94	(80 - 122)
Toluene-d8	96	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5A130138  
 MB Lot-Sample #: A5A130000-261

Work Order #...: G2H821AA

Matrix.....: SOLID

Prep Date.....: 01/13/05

Analysis Date...: 01/14/05

Prep Batch #...: 5013261

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzo (a) anthracene	ND	330	ug/kg	SW846 8270C
Benzo (b) fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo (a) pyrene	ND	330	ug/kg	SW846 8270C
Dibenz (a, h) anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno (1, 2, 3-cd) pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	66	(25 - 115)
2-Fluorophenol	61	(11 - 116)
2, 4, 6-Tribromophenol	57	(35 - 116)

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5A130138  
 MB Lot-Sample #: A5A140000-199  
 Leach Date.....: 01/13/05  
 Leach Batch #...: P501307  
 Dilution Factor: 1

Work Order #...: G2K721AA  
 Prep Date.....: 01/14/05  
 Prep Batch #...: 5014199

Matrix.....: SOLID  
 Analysis Date...: 01/17/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
Terphenyl-d14	78	(10 - 144)
Phenol-d5	70	(10 - 113)
2-Fluorophenol	69	(13 - 110)
2,4,6-Tribromophenol	81	(21 - 122)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5A140000-016		Prep Batch #...: 5014016				
Arsenic	ND	1.0	mg/kg	SW846 6010B	01/14/05	G2KP61C1
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #....: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
MB Lot-Sample #: A5A130000-199		Prep Batch #....: 5017013				
Leach Date.....: 01/13/05		Leach Batch #...: P501307				
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17/05	G2HVE1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MB Lot-Sample #:</b> A5A170000-013 <b>Prep Batch #...:</b> 5017013						
Arsenic	ND	0.50	mg/L	SW846 6010B	01/17/05	G2N711AU
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G2KRT1AA		MB Lot-Sample #:	A5A140000-055	
		10.0	%	MCAWW 160.3 MOD	01/14-01/17/05	5014055
		Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #....: A5A130138      Work Order #....: G2Q5N1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A180000-198      G2Q5N1AC-LCSD  
 Prep Date.....: 01/18/05      Analysis Date...: 01/18/05  
 Prep Batch #....: 5018198  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	91	(76 - 118)			SW846 8260B
	90	(76 - 118)	0.27	(0-30)	SW846 8260B
Chlorobenzene	93	(76 - 113)			SW846 8260B
	93	(76 - 113)	0.16	(0-30)	SW846 8260B
1,1-Dichloroethylene	101	(67 - 128)			SW846 8260B
	98	(67 - 128)	3.1	(0-30)	SW846 8260B
Trichloroethylene	93	(76 - 119)			SW846 8260B
	91	(76 - 119)	2.0	(0-30)	SW846 8260B
Toluene	89	(72 - 117)			SW846 8260B
	88	(72 - 117)	1.1	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(86 - 124)
	101	(86 - 124)
1,2-Dichloroethane-d4	96	(80 - 122)
	96	(80 - 122)
Toluene-d8	98	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)
	107	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Semivolatiles**

Client Lot #...: A5A130138      Work Order #...: G2H821AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A130000-261  
 Prep Date.....: 01/13/05      Analysis Date...: 01/14/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
<b>1,2,4-Trichloro-benzene</b>	<b>62</b>	<b>(45 - 110)</b>	<b>SW846 8270C</b>
<b>Acenaphthene</b>	<b>63</b>	<b>(44 - 110)</b>	<b>SW846 8270C</b>
<b>2,4-Dinitrotoluene</b>	<b>65</b>	<b>(48 - 111)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>61</b>	<b>(42 - 122)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl-amine</b>	<b>79</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>1,4-Dichlorobenzene</b>	<b>73</b>	<b>(38 - 110)</b>	<b>SW846 8270C</b>
<b>Pentachlorophenol</b>	<b>56</b>	<b>(10 - 123)</b>	<b>SW846 8270C</b>
<b>Phenol</b>	<b>68</b>	<b>(35 - 110)</b>	<b>SW846 8270C</b>
<b>2-Chlorophenol</b>	<b>68</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Chloro-3-methylphenol</b>	<b>60</b>	<b>(43 - 110)</b>	<b>SW846 8270C</b>
<b>4-Nitrophenol</b>	<b>53</b>	<b>(22 - 128)</b>	<b>SW846 8270C</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	63	(42 - 110)
2-Fluorobiphenyl	60	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	67	(11 - 116)
2,4,6-Tribromophenol	67	(35 - 116)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A130138      Work Order #...: G2K721AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5A140000-199      G2K721AD-LCSD  
 Prep Date.....: 01/14/05      Analysis Date...: 01/17/05  
 Prep Batch #...: 5014199  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
o-Cresol	72	(33 - 115)			SW846 8270C
	78	(33 - 115)	8.0	(0-31)	SW846 8270C
m-Cresol & p-Cresol	85	(46 - 109)			SW846 8270C
	75	(46 - 109)	13	(0-32)	SW846 8270C
1,4-Dichlorobenzene	93	(28 - 110)			SW846 8270C
	78	(28 - 110)	17	(0-36)	SW846 8270C
2,4-Dinitrotoluene	84	(47 - 131)			SW846 8270C
	79	(47 - 131)	5.5	(0-32)	SW846 8270C
Hexachlorobenzene	84	(57 - 128)			SW846 8270C
	80	(57 - 128)	6.0	(0-22)	SW846 8270C
Hexachlorobutadiene	70	(36 - 116)			SW846 8270C
	71	(36 - 116)	1.5	(0-32)	SW846 8270C
Hexachloroethane	80	(30 - 110)			SW846 8270C
	76	(30 - 110)	4.2	(0-33)	SW846 8270C
Nitrobenzene	78	(45 - 130)			SW846 8270C
	78	(45 - 130)	0.59	(0-50)	SW846 8270C
Pentachlorophenol	78	(10 - 140)			SW846 8270C
	86	(10 - 140)	9.1	(0-56)	SW846 8270C
Pyridine	70	(10 - 148)			SW846 8270C
	77	(10 - 148)	9.5	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	76	(41 - 125)			SW846 8270C
	73	(41 - 125)	3.8	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	73	(46 - 135)			SW846 8270C
	70	(46 - 135)	4.4	(0-27)	SW846 8270C
Cresols (total)	81	(46 - 109)			SW846 8270C
	76	(46 - 109)	6.3	(0-32)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	79	(32 - 112)
	77	(32 - 112)
2-Fluorobiphenyl	68	(30 - 110)
	65	(30 - 110)
Terphenyl-d14	85	(10 - 144)
	75	(10 - 144)
Phenol-d5	64	(10 - 113)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A140000-016	Prep Batch #...:	5014016		
Arsenic	90	(80 - 120)	SW846 6010B	01/14/05	G2KP61DU
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5A170000-013	Prep Batch #...:	5017013		
Arsenic	98	(50 - 150)	SW846 6010B	01/17/05	G2N711A3
		Dilution Factor: 1			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TCLP GC/MS Volatiles**

Client Lot #....: A5A130138      Work Order #....: G2G051AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5A120325-004      G2G051AE-MSD  
 Date Sampled...: 01/11/05 12:25      Date Received...: 01/12/05  
 Leach Date.....: 01/17/05      Prep Date.....: 01/19/05      Analysis Date...: 01/19/05  
 Leach Batch #...: P501702      Prep Batch #....: 5018198  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	87	(76 - 117)			SW846 8260B
	86	(76 - 117)	1.5	(0-30)	SW846 8260B
Chlorobenzene	88	(72 - 114)			SW846 8260B
	87	(72 - 114)	1.2	(0-30)	SW846 8260B
1,1-Dichloroethylene	93	(67 - 129)			SW846 8260B
	86	(67 - 129)	7.6	(0-30)	SW846 8260B
Trichloroethylene	86	(72 - 121)			SW846 8260B
	85	(72 - 121)	1.6	(0-30)	SW846 8260B
Toluene	83	(67 - 113)			SW846 8260B
	83	(67 - 113)	0.73	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	103	(86 - 125)
	101	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
	95	(80 - 122)
Toluene-d8	101	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	106	(84 - 125)
	103	(84 - 125)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A130138      Work Order #...: G2HR31AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5A130138-003      G2HR31AH-MSD  
 Date Sampled...: 01/12/05 09:44      Date Received...: 01/13/05  
 Prep Date.....: 01/13/05      Analysis Date...: 01/15/05  
 Prep Batch #...: 5013261  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	72	(16 - 121)			SW846 8270C
	51	(16 - 121)	33	(0-54)	SW846 8270C
Acenaphthene	75	(13 - 133)			SW846 8270C
	50	(13 - 133)	39	(0-44)	SW846 8270C
2,4-Dinitrotoluene	76	(10 - 171)			SW846 8270C
	56	(10 - 171)	31	(0-45)	SW846 8270C
Pyrene	77	(10 - 218)			SW846 8270C
	50	(10 - 218)	37	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	89	(12 - 128)			SW846 8270C
	70	(12 - 128)	24	(0-50)	SW846 8270C
1,4-Dichlorobenzene	76	(18 - 110)			SW846 8270C
	64	(18 - 110)	18	(0-59)	SW846 8270C
Pentachlorophenol	73	(10 - 144)			SW846 8270C
	44	(10 - 144)	50	(0-87)	SW846 8270C
Phenol	73	(10 - 148)			SW846 8270C
	56	(10 - 148)	25	(0-50)	SW846 8270C
2-Chlorophenol	70	(17 - 116)			SW846 8270C
	54	(17 - 116)	25	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	72	(17 - 128)			SW846 8270C
	49	(17 - 128)	37	(0-55)	SW846 8270C
4-Nitrophenol	81	(10 - 148)			SW846 8270C
	49	(10 - 148)	49	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	85	(42 - 110)
	58	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
	49	(43 - 110)
Terphenyl-d14	85	(37 - 137)
	55	(37 - 137)
Phenol-d5	80	(25 - 115)
	55	(25 - 115)
2-Fluorophenol	73	(11 - 116)
	50	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5A130138      Work Order #...: G2HR31AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5A130138-003      G2HR31AH-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	71	(35 - 116)
	37	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

Date Sampled...: 01/12/05 10:25 Date Received...: 01/13/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5A130101-001 Prep Batch #...: 5014016

% Moisture.....: 9.8

Arsenic	87	(75 - 125)			SW846 6010B	01/14/05	G2HGN1CA
	89	(75 - 125)	2.2	(0-20)	SW846 6010B	01/14/05	G2HGN1CC

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A5A130138

Matrix.....: SO

Date Sampled...: 01/12/05 09:44 Date Received...: 01/13/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: A5A130138-003 Prep Batch #...: 5014016</b>							
Arsenic	85	(75 - 125)			SW846 6010B	01/14/05	G2HR31AD
	87	(75 - 125)	1.9	(0-20)	SW846 6010B	01/14/05	G2HR31AE
			Dilution Factor: 1				

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5A130138

Matrix.....: SOLID

Date Sampled...: 12/17/04 11:00 Date Received...: 12/18/04

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5A110120-001 Prep Batch #...: 5017013

Leach Date.....: 01/13/05 Leach Batch #...: P501307

Arsenic	100	(50 - 150)			SW846 6010B	01/17-01/18/05	G2DXD1A5
	102	(50 - 150)	1.9	(0-20)	SW846 6010B	01/17-01/18/05	G2DXD1A6

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.







# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan Manufactured Gas and Coal Plant Site

## CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *R. P. P. P. P.*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS
	1/2/05	9:41	S-011205-PP-154	Soil	2
	1/2/05	9:41	S-011205-PP-155	Soil	2
	1/2/05	9:44	S-011205-PP-156	Soil	2
	1/2/05	9:57	S-011205-PP-157	Soil	2
	1/2/05	9:58	S-011205-PP-158	Soil	2
	1/2/05	1:08	S-011205-PP-015	Soil	2
	1/2/05	1:24	S-011205-PP-159	Soil	2
	1/2/05	1:46	S-011205-PP-160	Soil	2
	1/2/05	1:55	S-011205-PP-161	Soil	2

PARAMETERS	Site Specific	SVOCs	Total Aldehydes	TCMP VOCs	TCPS VOCs	TCMP Arsenic
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				
	X	X				

REMARKS  
MS/MSD  
CATEGORY 2-9  
*2 Vials \* [Signature]*

TOTAL NUMBER OF CONTAINERS: 11

RELINQUISHED BY: <i>[Signature]</i>	DATE: 1/2/05	RECEIVED BY: ②	DATE: 1/13/05
RELINQUISHED BY: ①	TIME: 13:00	RECEIVED BY: ③	TIME: 21:40
RELINQUISHED BY: ②	DATE: _____	RECEIVED BY: ④	DATE: _____
RELINQUISHED BY: ③	TIME: _____		TIME: _____

METHOD OF SHIPMENT: FEDEX AIR BILL No. \_\_\_\_\_

White	Fully Executed Copy	SAMPLE TEAM: P. P. P. P. P.	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>	DATE: 1/13/05	TIME: 21:40
Yellow	-Receiving Laboratory Copy				
Pink	-Shipper Copy				
Goldenrod	-Sampler Copy				

**STL Cooler Receipt Form/Narrative**

Lot Number: ADH130160

**North Canton Facility**

Client: CRA

Project: Warkogan

Quote#: \_\_\_\_\_

Cooler Received on: 1-13-05

Opened on: 1-13-05

by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 18.3 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM: AIM Date: 1-13-05 by: SM/ANS via Voice Mail  Verbal  Other

Concerning: High temp

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
[www.stl-inc.com](http://www.stl-inc.com)

## ANALYTICAL REPORT

PROJECT NO. 019023-84

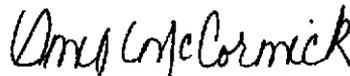
WAUKEGAN MGP COKE SITE

Lot #: A5B010177

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

February 11, 2005

# CASE NARRATIVE

A5B010177

The following report contains the analytical results for fifteen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 1, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 8 and 9, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.3°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

The matrix spike/matrix spike duplicate(s) for batch(es) 5032300 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

Sample S-013105-PP-019 exhibited surrogate recoveries outside acceptance limits. Upon re-extraction and reanalysis, surrogates remained outside acceptance limits demonstrating a matrix effect; therefore, only the original results have been reported.

Two analyses were used to report sample S-013105-PP-163 due to high analyte concentrations.

Internal standard areas were outside acceptance limits for samples S-013105-PP-164, S-013105-PP-165, and S-013105-PP-166 due to matrix effects (Perylene-d12 out low).

Sample S-013105-PP-167 had elevated reporting limits due to matrix interference.

### **METALS**

The matrix spike/matrix spike duplicate(s) for S-013105-PP-166 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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## EXECUTIVE SUMMARY - Detection Highlights

A5B010177

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-013105-PP-162 01/31/05 003</b>				
Arsenic	162	1.2	mg/kg	SW846 6010B
Naphthalene	92000	20000	ug/kg	SW846 8270C
Percent Solids	82.8	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-163 01/31/05 004</b>				
Arsenic	26.8	1.1	mg/kg	SW846 6010B
Naphthalene	860000 E	88000	ug/kg	SW846 8270C
Naphthalene	790000	350000	ug/kg	SW846 8270C
Percent Solids	93.7	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-164 01/31/05 005</b>				
Arsenic	215	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	7400	1500	ug/kg	SW846 8270C
Benzo(a)pyrene	3800	1500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2400	1500	ug/kg	SW846 8270C
Benzo(a)anthracene	2800	1500	ug/kg	SW846 8270C
Percent Solids	86.8	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-165 01/31/05 006</b>				
Arsenic	271	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1200	390	ug/kg	SW846 8270C
Benzo(a)pyrene	760	390	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	580	390	ug/kg	SW846 8270C
Benzo(a)anthracene	840	390	ug/kg	SW846 8270C
Percent Solids	84.4	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-166 01/31/05 007</b>				
Arsenic	303	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2400	760	ug/kg	SW846 8270C
Benzo(a)pyrene	1200	760	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1400	760	ug/kg	SW846 8270C
Naphthalene	3100	760	ug/kg	SW846 8270C
Benzo(a)anthracene	1100	760	ug/kg	SW846 8270C
Percent Solids	86.4	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B010177

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-013105-PP-167 01/31/05 008</b>				
Arsenic	23.0	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1500	850	ug/kg	SW846 8270C
Benzo(a)anthracene	1300	850	ug/kg	SW846 8270C
Percent Solids	77.6	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-168 01/31/05 009</b>				
Arsenic	277	1.1	mg/kg	SW846 6010B
Naphthalene	70000	18000	ug/kg	SW846 8270C
Percent Solids	89.2	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-169 01/31/05 010</b>				
Arsenic	190	1.1	mg/kg	SW846 6010B
Naphthalene	36000	15000	ug/kg	SW846 8270C
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-170 01/31/05 011</b>				
Arsenic	889	1.2	mg/kg	SW846 6010B
Naphthalene	25000	7900	ug/kg	SW846 8270C
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-171 01/31/05 013</b>				
Arsenic	73.0	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3100	870	ug/kg	SW846 8270C
Benzo(a)pyrene	1700	870	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1200	870	ug/kg	SW846 8270C
4-Methylphenol	1200	870	ug/kg	SW846 8270C
Naphthalene	1300	870	ug/kg	SW846 8270C
Benzo(a)anthracene	1800	870	ug/kg	SW846 8270C
Percent Solids	76.1	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-172 01/31/05 014</b>				
Arsenic	5.9	1.2	mg/kg	SW846 6010B
Percent Solids	83.2	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B010177

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-013105-PP-173 01/31/05 015</b>				
Arsenic	6.6	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	440	390	ug/kg	SW846 8270C
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD
<b>S-013105-PP-174 01/31/05 016</b>				
Arsenic	30.4	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4700	1800	ug/kg	SW846 8270C
Benzo(a)pyrene	3200	1800	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2000	1800	ug/kg	SW846 8270C
4-Methylphenol	4300	1800	ug/kg	SW846 8270C
Naphthalene	2300	1800	ug/kg	SW846 8270C
Benzo(a)anthracene	3400	1800	ug/kg	SW846 8270C
Percent Solids	75.2	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5B010177

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B010177

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G3JRP	001	S-013105-PP-017	01/31/05	11:35
G3JRW	002	S-013105-PP-019	01/31/05	11:45
G3JRX	003	S-013105-PP-162	01/31/05	
G3JR1	004	S-013105-PP-163	01/31/05	
G3JR2	005	S-013105-PP-164	01/31/05	
G3JR3	006	S-013105-PP-165	01/31/05	
G3JR5	007	S-013105-PP-166	01/31/05	
G3JR6	008	S-013105-PP-167	01/31/05	
G3JR9	009	S-013105-PP-168	01/31/05	
G3JTA	010	S-013105-PP-169	01/31/05	
G3JTC	011	S-013105-PP-170	01/31/05	
G3JTD	012	W-013105-PP-502	01/31/05	
G3JTE	013	S-013105-PP-171	01/31/05	
G3JTH	014	S-013105-PP-172	01/31/05	
G3JTJ	015	S-013105-PP-173	01/31/05	
G3JTL	016	S-013105-PP-174	01/31/05	

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filler test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-017

TCLP GC/MS Volatiles

Lot-Sample #...: A5B010177-001    Work Order #...: G3JRP1AA    Matrix.....: SO  
 Date Sampled...: 01/31/05 11:35    Date Received...: 02/01/05  
 Leach Date.....: 02/02/05    Prep Date.....: 02/04/05    Analysis Date...: 02/04/05  
 Leach Batch #..: P503308    Prep Batch #...: 5038126  
 Dilution Factor: 20  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.50	mg/L
Carbon tetrachloride	ND	0.50	mg/L
Chlorobenzene	ND	0.50	mg/L
Chloroform	ND	0.50	mg/L
1,2-Dichloroethane	ND	0.50	mg/L
1,1-Dichloroethylene	ND	1.4	mg/L
Methyl ethyl ketone	ND	1.0	mg/L
Tetrachloroethylene	ND	1.4	mg/L
Trichloroethylene	ND	1.0	mg/L
Vinyl chloride	ND	0.50	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-017

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B010177-001    Work Order #...: G3JRP1AD    Matrix.....: SO  
 Date Sampled...: 01/31/05 11:35    Date Received...: 02/01/05  
 Leach Date.....: 02/02/05    Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Leach Batch #...: P503306    Prep Batch #...: 5035032  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	86	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	82	(10 - 144)
Phenol-d5	61	(10 - 113)
2-Fluorophenol	51	(13 - 110)
2,4,6-Tribromophenol	70	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-017

TCLP Metals

Lot-Sample #...: A5B010177-001

Matrix.....: SO

Date Sampled...: 01/31/05 11:35 Date Received...: 02/01/05

Leach Date.....: 02/02/05 Leach Batch #...: P503306

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5035029						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04/05	G3JRP1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-019

TCLP GC/MS Volatiles

Lot-Sample #...: A5B010177-002    Work Order #...: G3JRW1AA    Matrix.....: SO  
 Date Sampled...: 01/31/05 11:45    Date Received...: 02/01/05  
 Leach Date.....: 02/02/05    Prep Date.....: 02/04/05    Analysis Date...: 02/04/05  
 Leach Batch #..: P503308    Prep Batch #...: 5038126  
 Dilution Factor: 2  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.050	mg/L
Carbon tetrachloride	ND	0.050	mg/L
Chlorobenzene	ND	0.050	mg/L
Chloroform	ND	0.050	mg/L
1,2-Dichloroethane	ND	0.050	mg/L
1,1-Dichloroethylene	ND	0.14	mg/L
Methyl ethyl ketone	ND	0.10	mg/L
Tetrachloroethylene	ND	0.14	mg/L
Trichloroethylene	ND	0.10	mg/L
Vinyl chloride	ND	0.050	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-019

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B010177-002    Work Order #...: G3JRW1AD    Matrix.....: SO  
 Date Sampled...: 01/31/05 11:45    Date Received...: 02/01/05  
 Leach Date.....: 02/02/05    Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Leach Batch #...: P503306    Prep Batch #...: 5035032  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	60	(32 - 112)
2-Fluorobiphenyl	53	(30 - 110)
Terphenyl-d14	72	(10 - 144)
Phenol-d5	6.2 *	(10 - 113)
2-Fluorophenol	5.4 *	(13 - 110)
2,4,6-Tribromophenol	12 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-019

TCLP Metals

Lot-Sample #...: A5B010177-002

Matrix.....: SO

Date Sampled...: 01/31/05 11:45 Date Received...: 02/01/05

Leach Date.....: 02/02/05 Leach Batch #...: P503306

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5035029						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04/05	G3JRW1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-162

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-003    Work Order #...: G3JRX1AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 50  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	20000	ug/kg
Benzo(a)pyrene	ND	20000	ug/kg
Dibenz(a,h)anthracene	ND	20000	ug/kg
Dibenzofuran	ND	20000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	20000	ug/kg
4-Methylphenol	ND	20000	ug/kg
<b>Naphthalene</b>	<b>92000</b>	<b>20000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	20000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-162

TOTAL Metals

Lot-Sample #...: A5B010177-003

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	162	1.2	mg/kg	SW846 6010B	02/02-02/03/05	G3JRX1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-162

General Chemistry

Lot-Sample #...: A5B010177-003    Work Order #...: G3JRX    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.8	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-163

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-004    Work Order #...: G3JR11AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 250  
 % Moisture.....: 6.3    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	88000	ug/kg
Benzo(a)pyrene	ND	88000	ug/kg
Dibenz(a,h)anthracene	ND	88000	ug/kg
Dibenzofuran	ND	88000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	88000	ug/kg
4-Methylphenol	ND	88000	ug/kg
<b>Naphthalene</b>	<b>860000 E</b>	<b>88000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	88000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-163

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-004    Work Order #...: G3JR12AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 1000  
 % Moisture.....: 6.3    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	350000	ug/kg
Benzo(a)pyrene	ND	350000	ug/kg
Dibenz(a,h)anthracene	ND	350000	ug/kg
Dibenzofuran	ND	350000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	350000	ug/kg
4-Methylphenol	ND	350000	ug/kg
<b>Naphthalene</b>	<b>790000</b>	<b>350000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	350000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-163

TOTAL Metals

Lot-Sample #...: A5B010177-004

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 6.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	26.8	1.1	mg/kg	SW846 6010B	02/02-02/03/05	G3JR11AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-163

General Chemistry

Lot-Sample #...: A5B010177-004    Work Order #...: G3JR1    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received..: 02/01/05  
% Moisture.....: 6.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	93.7	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-164

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-005    Work Order #...: G3JR21AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 4  
 % Moisture.....: 13    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	7400	1500	ug/kg
Benzo(a)pyrene	3800	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	2400	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	ND	1500	ug/kg
Benzo(a)anthracene	2800	1500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	81 DIL	(42 - 110)
2-Fluorobiphenyl	74 DIL	(43 - 110)
Terphenyl-d14	89 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	81 DIL	(11 - 116)
2,4,6-Tribromophenol	91 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-164

TOTAL Metals

Lot-Sample #...: A5B010177-005

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	215	1.2	mg/kg	SW846 6010B	02/02-02/03/05	G3JR21AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-164

General Chemistry

Lot-Sample #...: A5B010177-005    Work Order #...: G3JR2    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received..: 02/01/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.8	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-165

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-006    Work Order #...: G3JR31AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 1  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	1200	390	ug/kg
Benzo(a)pyrene	760	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	580	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	840	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	(42 - 110)
2-Fluorobiphenyl	65	(43 - 110)
Terphenyl-d14	73	(37 - 137)
Phenol-d5	73	(25 - 115)
2-Fluorophenol	71	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-165

TOTAL Metals

Lot-Sample #...: A5B010177-006

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	271	1.2	mg/kg	SW846 6010B	02/02-02/03/05	G3JR31AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-165

General Chemistry

Lot-Sample #...: A5B010177-006    Work Order #...: G3JR3    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received..: 02/01/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.4	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-166

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-007    Work Order #...: G3JR51AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 2  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	2400	760	ug/kg
Benzo(a)pyrene	1200	760	ug/kg
Dibenz(a,h)anthracene	ND	760	ug/kg
Dibenzofuran	ND	760	ug/kg
Indeno(1,2,3-cd)pyrene	1400	760	ug/kg
4-Methylphenol	ND	760	ug/kg
Naphthalene	3100	760	ug/kg
Benzo(a)anthracene	1100	760	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	41 DIL, *	(42 - 110)
2-Fluorobiphenyl	33 DIL, *	(43 - 110)
Terphenyl-d14	40 DIL	(37 - 137)
Phenol-d5	39 DIL	(25 - 115)
2-Fluorophenol	38 DIL	(11 - 116)
2,4,6-Tribromophenol	35 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-166

TOTAL Metals

Lot-Sample #...: A5B010177-007

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	303	1.2	mg/kg	SW846 6010B	02/02-02/03/05	G3JR51AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-166

General Chemistry

Lot-Sample #...: A5B010177-007    Work Order #...: G3JR5    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.4	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-167

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-008    Work Order #...: G3JR61AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 2  
 % Moisture.....: 22    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>1500</b>	<b>850</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	850	ug/kg
Dibenz(a,h)anthracene	ND	850	ug/kg
Dibenzofuran	ND	850	ug/kg
Indeno(1,2,3-cd)pyrene	ND	850	ug/kg
4-Methylphenol	ND	850	ug/kg
Naphthalene	ND	850	ug/kg
<b>Benzo(a)anthracene</b>	<b>1300</b>	<b>850</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	50 DIL	(43 - 110)
Terphenyl-d14	58 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	51 DIL	(11 - 116)
2,4,6-Tribromophenol	48 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-167

TOTAL Metals

Lot-Sample #...: A5B010177-008

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	23.0	1.3	mg/kg	SW846 6010B	02/02-02/03/05	G3JR61AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-167

General Chemistry

Lot-Sample #...: A5B010177-008      Work Order #...: G3JR6      Matrix.....: SO  
Date Sampled...: 01/31/05      Date Received...: 02/01/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.6	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-168

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-009    Work Order #...: G3JR91AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 50  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	18000	ug/kg
Benzo(a)pyrene	ND	18000	ug/kg
Dibenz(a,h)anthracene	ND	18000	ug/kg
Dibenzofuran	ND	18000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	18000	ug/kg
4-Methylphenol	ND	18000	ug/kg
<b>Naphthalene</b>	<b>70000</b>	<b>18000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	18000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-168

TOTAL Metals

Lot-Sample #...: A5B010177-009

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	277	1.1	mg/kg	SW846 6010B	02/02-02/03/05	G3JR91AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-168

General Chemistry

Lot-Sample #...: A5B010177-009      Work Order #...: G3JR9      Matrix.....: SO  
Date Sampled...: 01/31/05      Date Received..: 02/01/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.2	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-169

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-010    Work Order #...: G3JTA1AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 40  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	15000	ug/kg
Benzo(a)pyrene	ND	15000	ug/kg
Dibenz(a,h)anthracene	ND	15000	ug/kg
Dibenzofuran	ND	15000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	15000	ug/kg
4-Methylphenol	ND	15000	ug/kg
<b>Naphthalene</b>	<b>36000</b>	<b>15000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	15000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-169

TOTAL Metals

Lot-Sample #...: A5B010177-010

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	190	1.1	mg/kg	SW846 6010B	02/02-02/03/05	G3JTA1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-169

General Chemistry

Lot-Sample #...: A5B010177-010    Work Order #...: G3JTA    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received..: 02/01/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-170

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-011    Work Order #...: G3JTC1AD    Matrix.....: SO  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 20  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	7900	ug/kg
Benzo(a)pyrene	ND	7900	ug/kg
Dibenz(a,h)anthracene	ND	7900	ug/kg
Dibenzofuran	ND	7900	ug/kg
Indeno(1,2,3-cd)pyrene	ND	7900	ug/kg
4-Methylphenol	ND	7900	ug/kg
<b>Naphthalene</b>	<b>25000</b>	<b>7900</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	7900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	90 DIL	(42 - 110)
2-Fluorobiphenyl	83 DIL	(43 - 110)
Terphenyl-d14	89 DIL	(37 - 137)
Phenol-d5	72 DIL	(25 - 115)
2-Fluorophenol	57 DIL	(11 - 116)
2,4,6-Tribromophenol	54 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-170

TOTAL Metals

Lot-Sample #...: A5B010177-011

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	889	1.2	mg/kg	SW846 6010B	02/02-02/03/05	G3JTC1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-170

General Chemistry

Lot-Sample #...: A5B010177-011    Work Order #...: G3JTC    Matrix.....: SO  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-013105-PP-502

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-012    Work Order #...: G3JTD1AC    Matrix.....: WG  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/03/05  
 Prep Batch #...: 5032300  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79	( 32 - 112)
2-Fluorobiphenyl	55	( 30 - 110)
Terphenyl-d14	73	( 10 - 144)
Phenol-d5	68	( 10 - 113)
2-Fluorophenol	64	( 13 - 110)
2,4,6-Tribromophenol	76	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-013105-PP-502

TOTAL Metals

Lot-Sample #...: A5B010177-012

Matrix.....: WG

Date Sampled...: 01/31/05

Date Received...: 02/01/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5033013						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/02/05	G3JTD1AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-171

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-013    Work Order #...: G3JTE1AD    Matrix.....: WG  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 2  
 % Moisture.....: 24    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	3100	870	ug/kg
Benzo(a)pyrene	1700	870	ug/kg
Dibenz(a,h)anthracene	ND	870	ug/kg
Dibenzofuran	ND	870	ug/kg
Indeno(1,2,3-cd)pyrene	1200	870	ug/kg
4-Methylphenol	1200	870	ug/kg
Naphthalene	1300	870	ug/kg
Benzo(a)anthracene	1800	870	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	78 DIL	(42 - 110)
2-Fluorobiphenyl	72 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	43 DIL	(25 - 115)
2-Fluorophenol	26 DIL	(11 - 116)
2,4,6-Tribromophenol	28 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-171

TOTAL Metals

Lot-Sample #...: A5B010177-013

Matrix.....: WG

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	73.0	1.3	mg/kg	SW846 6010B	02/02-02/03/05	G3JTE1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-171

General Chemistry

Lot-Sample #...: A5B010177-013      Work Order #...: G3JTE      Matrix.....: WG  
Date Sampled...: 01/31/05      Date Received...: 02/01/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.1	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-172

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-014    Work Order #...: G3JTH1AD    Matrix.....: WG  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 1  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	400	ug/kg
Benzo(a)pyrene	ND	400	ug/kg
Dibenz(a,h)anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd)pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo(a)anthracene	ND	400	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	69	(42 - 110)
2-Fluorobiphenyl	63	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	71	(25 - 115)
2-Fluorophenol	74	(11 - 116)
2,4,6-Tribromophenol	61	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-172

TOTAL Metals

Lot-Sample #...: A5B010177-014

Matrix.....: WG

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	5.9	1.2	mg/kg	SW846 6010B	02/02-02/04/05	G3JTH1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-172

General Chemistry

Lot-Sample #...: A5B010177-014    Work Order #...: G3JTH    Matrix.....: WG  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.2	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-173

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-015    Work Order #...: G3JTJ1AD    Matrix.....: WG  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 1  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>440</b>	<b>390</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	ND	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70	(42 - 110)
2-Fluorobiphenyl	66	(43 - 110)
Terphenyl-d14	85	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	65	(11 - 116)
2,4,6-Tribromophenol	72	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-173

TOTAL Metals

Lot-Sample #...: A5B010177-015

Matrix.....: WG

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	6.6	1.2	mg/kg	SW846 6010B	02/02-02/04/05	G3JTJ1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-173

General Chemistry

Lot-Sample #...: A5B010177-015    Work Order #...: G3JTJ    Matrix.....: WG  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.9	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-174

GC/MS Semivolatiles

Lot-Sample #...: A5B010177-016    Work Order #...: G3JTL1AD    Matrix.....: WG  
 Date Sampled...: 01/31/05    Date Received...: 02/01/05  
 Prep Date.....: 02/01/05    Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 4  
 % Moisture.....: 25    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	4700	1800	ug/kg
Benzo(a)pyrene	3200	1800	ug/kg
Dibenz(a,h)anthracene	ND	1800	ug/kg
Dibenzofuran	ND	1800	ug/kg
Indeno(1,2,3-cd)pyrene	2000	1800	ug/kg
4-Methylphenol	4300	1800	ug/kg
Naphthalene	2300	1800	ug/kg
Benzo(a)anthracene	3400	1800	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	76 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
Phenol-d5	45 DIL	(25 - 115)
2-Fluorophenol	30 DIL	(11 - 116)
2,4,6-Tribromophenol	28 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-174

TOTAL Metals

Lot-Sample #...: A5B010177-016

Matrix.....: WG

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5033022

Arsenic	30.4	1.3	mg/kg	SW846 6010B	02/02-02/04/05	G3JTL1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-013105-PP-174

General Chemistry

Lot-Sample #...: A5B010177-016    Work Order #...: G3JTL    Matrix.....: WG  
Date Sampled...: 01/31/05    Date Received...: 02/01/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	75.2	10.0	%	MCAWW 160.3 MOD	02/01-02/02/05	5032304

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B010177      Work Order #...: G3LJ81AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B020000-163  
 Leach Date.....: 02/02/05      Prep Date.....: 02/04/05      Analysis Date..: 02/04/05  
 Leach Batch #..: P503308      Prep Batch #...: 5038126  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177  
 MB Lot-Sample #: A5B010000-282

Work Order #...: G3J8F1AA

Matrix.....: SOLID

Prep Date.....: 02/01/05

Analysis Date..: 02/04/05

Prep Batch #...: 5032282

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	92	(42 - 110)
2-Fluorobiphenyl	67	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	86	(25 - 115)
2-Fluorophenol	87	(11 - 116)
2,4,6-Tribromophenol	79	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177  
MB Lot-Sample #: A5B010000-300

Work Order #...: G3J731AA

Matrix.....: WATER

Prep Date.....: 02/01/05

Analysis Date..: 02/03/05

Prep Batch #...: 5032300

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	( 32 - 112)
2-Fluorobiphenyl	64	( 30 - 110)
Terphenyl-d14	73	( 10 - 144)
Phenol-d5	71	( 10 - 113)
2-Fluorophenol	74	( 13 - 110)
2,4,6-Tribromophenol	70	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177  
MB Lot-Sample #: A5B010000-314

Work Order #...: G3KEW1AA

Matrix.....: SOLID

Prep Date.....: 02/01/05

Analysis Date..: 02/03/05

Prep Batch #...: 5032314

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	66	( 42 - 110)
2-Fluorobiphenyl	61	( 43 - 110)
Terphenyl-d14	90	( 37 - 137)
Phenol-d5	70	( 25 - 115)
2-Fluorophenol	73	( 11 - 116)
2,4,6-Tribromophenol	53	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3RFK1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B040000-032  
 Leach Date.....: 02/02/05      Prep Date.....: 02/04/05      Analysis Date...: 02/07/05  
 Leach Batch #...: P503306      Prep Batch #...: 5035032  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71	( 32 - 112)
2-Fluorobiphenyl	60	( 30 - 110)
Terphenyl-d14	82	( 10 - 144)
Phenol-d5	65	( 10 - 113)
2-Fluorophenol	72	( 13 - 110)
2,4,6-Tribromophenol	72	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B020000-013		<b>Prep Batch #...</b> : 5033013				
Arsenic	ND	0.010	mg/L	SW846 6010B	02/02/05	G3K381CX
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B020000-022		<b>Prep Batch #...</b> : 5033022				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/02-02/03/05	G3K4Q1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B020000-157		<b>Prep Batch #...</b> : 5035029				
<b>Leach Date.....</b> : 02/02/05		<b>Leach Batch #...</b> : P503306				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04/05	G3LJW1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B040000-029		<b>Prep Batch #...</b> : 5035029				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/04/05	G3RFD1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G3J9V1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5B010000-304 02/01-02/02/05	5032304
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B010177      Work Order #...: G3W1T1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B070000-126      G3W1T1AC-LCSD  
 Prep Date.....: 02/04/05      Analysis Date...: 02/04/05  
 Prep Batch #...: 5038126  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	97	(76 - 118)			SW846 8260B
	100	(76 - 118)	2.8	(0-30)	SW846 8260B
Chlorobenzene	103	(76 - 113)			SW846 8260B
	103	(76 - 113)	0.030	(0-30)	SW846 8260B
1,1-Dichloroethylene	101	(67 - 128)			SW846 8260B
	98	(67 - 128)	2.6	(0-30)	SW846 8260B
Trichloroethylene	98	(76 - 119)			SW846 8260B
	98	(76 - 119)	0.77	(0-30)	SW846 8260B
Toluene	98	(72 - 117)			SW846 8260B
	98	(72 - 117)	0.75	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(86 - 124)
	98	(86 - 124)
1,2-Dichloroethane-d4	87	(80 - 122)
	90	(80 - 122)
Toluene-d8	100	(90 - 122)
	99	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)
	103	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3J8F1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B010000-282  
 Prep Date.....: 02/01/05      Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	78	(45 - 110)	SW846 8270C
Acenaphthene	74	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	88	(48 - 111)	SW846 8270C
Pyrene	75	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	107	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	102	(38 - 110)	SW846 8270C
Pentachlorophenol	31	(10 - 123)	SW846 8270C
Phenol	87	(35 - 110)	SW846 8270C
2-Chlorophenol	78	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	95	(43 - 110)	SW846 8270C
4-Nitrophenol	71	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	91	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	82	(37 - 137)
Phenol-d5	82	(25 - 115)
2-Fluorophenol	74	(11 - 116)
2,4,6-Tribromophenol	79	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3J731AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5B010000-300  
 Prep Date.....: 02/01/05      Analysis Date...: 02/03/05  
 Prep Batch #...: 5032300  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	62	(31 - 110)	SW846 8270C
Acenaphthene	74	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	80	(47 - 131)	SW846 8270C
Pyrene	76	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl- amine	105	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	75	(28 - 110)	SW846 8270C
Pentachlorophenol	69	(10 - 140)	SW846 8270C
Phenol	82	(10 - 131)	SW846 8270C
2-Chlorophenol	79	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	80	(29 - 124)	SW846 8270C
4-Nitrophenol	96	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	88	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
Terphenyl-d14	79	(10 - 144)
Phenol-d5	78	(10 - 113)
2-Fluorophenol	77	(13 - 110)
2,4,6-Tribromophenol	80	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3KEW1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B010000-314  
 Prep Date.....: 02/01/05      Analysis Date...: 02/03/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	73	(45 - 110)	SW846 8270C
Acenaphthene	73	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	77	(48 - 111)	SW846 8270C
Pyrene	80	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	84	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	85	(38 - 110)	SW846 8270C
Pentachlorophenol	81	(10 - 123)	SW846 8270C
Phenol	78	(35 - 110)	SW846 8270C
2-Chlorophenol	74	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	72	(43 - 110)	SW846 8270C
4-Nitrophenol	74	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	77	(42 - 110)
2-Fluorobiphenyl	71	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	78	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2,4,6-Tribromophenol	72	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3RFK1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B040000-032      G3RFK1AD-LCSD  
 Prep Date.....: 02/04/05      Analysis Date...: 02/07/05  
 Prep Batch #...: 5035032  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	105	(33 - 115)			SW846 8270C
	84	(33 - 115)	23	(0-31)	SW846 8270C
m-Cresol & p-Cresol	82	(46 - 109)			SW846 8270C
	75	(46 - 109)	9.5	(0-32)	SW846 8270C
1,4-Dichlorobenzene	82	(28 - 110)			SW846 8270C
	75	(28 - 110)	9.2	(0-36)	SW846 8270C
2,4-Dinitrotoluene	84	(47 - 131)			SW846 8270C
	81	(47 - 131)	3.2	(0-32)	SW846 8270C
Hexachlorobenzene	83	(57 - 128)			SW846 8270C
	80	(57 - 128)	3.5	(0-22)	SW846 8270C
Hexachlorobutadiene	69	(36 - 116)			SW846 8270C
	72	(36 - 116)	3.1	(0-32)	SW846 8270C
Hexachloroethane	70	(30 - 110)			SW846 8270C
	69	(30 - 110)	2.5	(0-33)	SW846 8270C
Nitrobenzene	79	(45 - 130)			SW846 8270C
	81	(45 - 130)	3.0	(0-50)	SW846 8270C
Pentachlorophenol	94	(10 - 140)			SW846 8270C
	96	(10 - 140)	2.1	(0-56)	SW846 8270C
Pyridine	78	(10 - 148)			SW846 8270C
	77	(10 - 148)	1.2	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	80	(41 - 125)			SW846 8270C
	79	(41 - 125)	1.3	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	74	(46 - 135)			SW846 8270C
	71	(46 - 135)	3.8	(0-27)	SW846 8270C
Cresols (total)	90	(46 - 109)			SW846 8270C
	78	(46 - 109)	14	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	82	(32 - 112)
	82	(32 - 112)
2-Fluorobiphenyl	73	(30 - 110)
	71	(30 - 110)
Terphenyl-d14	85	(10 - 144)
	84	(10 - 144)
Phenol-d5	69	(10 - 113)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3RFK1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B040000-032      G3RFK1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	66	(10 - 113)
2-Fluorophenol	77	(13 - 110)
	77	(13 - 110)
2,4,6-Tribromophenol	80	(21 - 122)
	82	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#: A5B020000-013			Prep Batch #...: 5033013		
Arsenic	83	(80 - 120)	SW846 6010B	02/02/05	G3K381A3
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B020000-022 Prep Batch #...: 5033022

Arsenic 84 (80 - 120) SW846 6010B 02/02-02/03/05 G3K4Q1AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B010177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B040000-029	Prep Batch #...:	5035029		
Arsenic	99	(50 - 150)	SW846 6010B	02/04/05	G3RFD1AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B010177      Work Order #...: G3H5J1AC-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5B010103-001      G3H5J1AD-MSD  
 Date Sampled...: 01/28/05 12:15      Date Received...: 01/29/05  
 Leach Date.....: 02/02/05      Prep Date.....: 02/04/05      Analysis Date...: 02/04/05  
 Leach Batch #...: P503308      Prep Batch #...: 5038126  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	<b>104</b>	(76 - 117)			SW846 8260B
	98	(76 - 117)	6.2	(0-30)	SW846 8260B
Chlorobenzene	107	(72 - 114)			SW846 8260B
	102	(72 - 114)	5.0	(0-30)	SW846 8260B
1,1-Dichloroethylene	111	(67 - 129)			SW846 8260B
	97	(67 - 129)	13	(0-30)	SW846 8260B
Trichloroethylene	105	(72 - 121)			SW846 8260B
	95	(72 - 121)	8.2	(0-30)	SW846 8260B
Toluene	<b>104</b>	(67 - 113)			SW846 8260B
	95	(67 - 113)	7.4	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
	98	(86 - 125)
1,2-Dichloroethane-d4	86	(80 - 122)
	89	(80 - 122)
Toluene-d8	103	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	104	(84 - 125)
	104	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3JR51AJ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B010177-007      G3JR51AK-MSD  
 Date Sampled...: 01/31/05      Date Received...: 02/01/05  
 Prep Date.....: 02/01/05      Analysis Date...: 02/04/05  
 Prep Batch #...: 5032282  
 Dilution Factor: 2

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	84 DIL	(16 - 121)			SW846 8270C
	75 DIL	(16 - 121)	11	(0-54)	SW846 8270C
Acenaphthene	83 DIL	(13 - 133)			SW846 8270C
	76 DIL	(13 - 133)	8.4	(0-44)	SW846 8270C
2,4-Dinitrotoluene	80 DIL	(10 - 171)			SW846 8270C
	80 DIL	(10 - 171)	0.08	(0-45)	SW846 8270C
Pyrene	78 DIL	(10 - 218)			SW846 8270C
	35 DIL	(10 - 218)	20	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	124 DIL	(12 - 128)			SW846 8270C
	115 DIL	(12 - 128)	7.4	(0-50)	SW846 8270C
1,4-Dichlorobenzene	109 DIL	(18 - 110)			SW846 8270C
	100 DIL	(18 - 110)	7.5	(0-59)	SW846 8270C
Pentachlorophenol	66 DIL	(10 - 144)			SW846 8270C
	51 DIL	(10 - 144)	25	(0-87)	SW846 8270C
Phenol	127 DIL	(10 - 148)			SW846 8270C
	71 DIL	(10 - 148)	28	(0-50)	SW846 8270C
2-Chlorophenol	96 DIL	(17 - 116)			SW846 8270C
	76 DIL	(17 - 116)	22	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	95 DIL	(17 - 128)			SW846 8270C
	82 DIL	(17 - 128)	13	(0-55)	SW846 8270C
4-Nitrophenol	122 DIL	(10 - 148)			SW846 8270C
	85 DIL	(10 - 148)	36	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	72 DIL	(42 - 110)
	87 DIL	(42 - 110)
2-Fluorobiphenyl	52 DIL	(43 - 110)
	69 DIL	(43 - 110)
Terphenyl-d14	68 DIL	(37 - 137)
	73 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
	72 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
	82 DIL	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3JR51AJ-MS      Matrix.....: SO  
MS Lot-Sample #: A5B010177-007      G3JR51AK-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	55 DIL	(35 - 116)
	78 DIL	(35 - 116)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3JJP1AF-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5B010152-006      G3JJP1AG-MSD  
 Date Sampled...: 01/31/05 15:22      Date Received...: 02/01/05  
 Prep Date.....: 02/01/05      Analysis Date...: 02/03/05  
 Prep Batch #...: 5032300  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
<b>Acenaphthene</b>	<b>74</b>	<b>(26 - 118)</b>			<b>SW846 8270C</b>
	<b>72</b>	<b>(26 - 118)</b>	<b>1.5</b>	<b>(0-35)</b>	<b>SW846 8270C</b>
<b>2,4-Dinitrotoluene</b>	<b>78</b>	<b>(31 - 131)</b>			<b>SW846 8270C</b>
	<b>76</b>	<b>(31 - 131)</b>	<b>3.0</b>	<b>(0-32)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>75</b>	<b>(27 - 138)</b>			<b>SW846 8270C</b>
	<b>70</b>	<b>(27 - 138)</b>	<b>7.1</b>	<b>(0-31)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl-amine</b>	<b>108</b>	<b>(18 - 115)</b>			<b>SW846 8270C</b>
	<b>116 a</b>	<b>(18 - 115)</b>	<b>7.0</b>	<b>(0-36)</b>	<b>SW846 8270C</b>
<b>Pentachlorophenol</b>	<b>61</b>	<b>(10 - 140)</b>			<b>SW846 8270C</b>
	<b>59</b>	<b>(10 - 140)</b>	<b>2.6</b>	<b>(0-56)</b>	<b>SW846 8270C</b>
<b>Phenol</b>	<b>81</b>	<b>(10 - 131)</b>			<b>SW846 8270C</b>
	<b>87</b>	<b>(10 - 131)</b>	<b>7.2</b>	<b>(0-43)</b>	<b>SW846 8270C</b>
<b>2-Chlorophenol</b>	<b>74</b>	<b>(19 - 124)</b>			<b>SW846 8270C</b>
	<b>81</b>	<b>(19 - 124)</b>	<b>9.3</b>	<b>(0-43)</b>	<b>SW846 8270C</b>
<b>4-Chloro-3-methylphenol</b>	<b>85</b>	<b>(21 - 124)</b>			<b>SW846 8270C</b>
	<b>84</b>	<b>(21 - 124)</b>	<b>0.96</b>	<b>(0-55)</b>	<b>SW846 8270C</b>
<b>4-Nitrophenol</b>	<b>112</b>	<b>(10 - 145)</b>			<b>SW846 8270C</b>
	<b>99</b>	<b>(10 - 145)</b>	<b>12</b>	<b>(0-34)</b>	<b>SW846 8270C</b>

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	97	(32 - 112)
	92	(32 - 112)
2-Fluorobiphenyl	72	(30 - 110)
	66	(30 - 110)
Terphenyl-d14	79	(10 - 144)
	75	(10 - 144)
Phenol-d5	80	(10 - 113)
	88	(10 - 113)
2-Fluorophenol	79	(13 - 110)
	81	(13 - 110)
2,4,6-Tribromophenol	83	(21 - 122)
	78	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3KAQ1AE-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5B010236-013      G3KAQ1AF-MSD  
 Date Sampled...: 02/01/05 12:10      Date Received...: 02/01/05  
 Prep Date.....: 02/01/05      Analysis Date...: 02/04/05  
 Prep Batch #...: 5032314  
 Dilution Factor: 1      % Moisture.....: 8.0

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	64	(16 - 121)			SW846 8270C
	67	(16 - 121)	4.1	(0-54)	SW846 8270C
Acenaphthene	70	(13 - 133)			SW846 8270C
	72	(13 - 133)	3.5	(0-44)	SW846 8270C
2,4-Dinitrotoluene	77	(10 - 171)			SW846 8270C
	79	(10 - 171)	2.0	(0-45)	SW846 8270C
Pyrene	74	(10 - 218)			SW846 8270C
	82	(10 - 218)	9.3	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	72	(12 - 128)			SW846 8270C
	74	(12 - 128)	2.4	(0-50)	SW846 8270C
1,4-Dichlorobenzene	82	(18 - 110)			SW846 8270C
	86	(18 - 110)	4.6	(0-59)	SW846 8270C
Pentachlorophenol	75	(10 - 144)			SW846 8270C
	72	(10 - 144)	5.2	(0-87)	SW846 8270C
Phenol	64	(10 - 148)			SW846 8270C
	66	(10 - 148)	3.0	(0-50)	SW846 8270C
2-Chlorophenol	67	(17 - 116)			SW846 8270C
	74	(17 - 116)	10	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	63	(17 - 128)			SW846 8270C
	64	(17 - 128)	0.38	(0-55)	SW846 8270C
4-Nitrophenol	69	(10 - 148)			SW846 8270C
	65	(10 - 148)	5.2	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	65	(42 - 110)
	65	(42 - 110)
2-Fluorobiphenyl	65	(43 - 110)
	67	(43 - 110)
Terphenyl-d14	77	(37 - 137)
	79	(37 - 137)
Phenol-d5	60	(25 - 115)
	61	(25 - 115)
2-Fluorophenol	61	(11 - 116)
	59	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B010177      Work Order #...: G3KAQ1AE-MS      Matrix.....: SOLID  
MS Lot-Sample #: A5B010236-013      G3KAQ1AF-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	66	(35 - 116)
	63	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: WATER

Date Sampled...: 01/31/05 15:22 Date Received...: 02/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B010152-006 Prep Batch #...: 5033013

Arsenic	97	(75 - 125)			SW846 6010B	02/02-02/03/05	G3JJP1AU
	95	(75 - 125)	2.7	(0-20)	SW846 6010B	02/02-02/03/05	G3JJP1AV

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B010177

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B010177-007 Prep Batch #...: 5033022

Arsenic	65 N	(75 - 125)			SW846 6010B	02/02-02/03/05	G3JR51AG
	14 N,*	(75 - 125)	30	(0-20)	SW846 6010B	02/02-02/03/05	G3JR51AH

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

\* Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B010177

Matrix.....: SO

Date Sampled...: 01/31/05 11:35 Date Received...: 02/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B010177-001 Prep Batch #...: 5035029

Leach Date.....: 02/02/05 Leach Batch #...: P503306

Arsenic	106	(50 - 150)			SW846 6010B	02/04/05	G3JRP1AG
	106	(50 - 150)	0.21	(0-20)	SW846 6010B	02/04/05	G3JRP1AH

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B010177

Work Order #...: G3JQ3-SMP  
G3JQ3-DUP

Matrix.....: SOLID

Date Sampled...: 01/31/05 12:55    Date Received...: 02/01/05

% Moisture.....: 25

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	75.3	75.9	%	0.86	(0-20)	MCAWW 160.3 MOD	02/01-02/02/05	5032304
Dilution Factor: 1								

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A5B010177

Work Order #...: G3JR5-SMP  
G3JR5-DUP

Matrix.....: SO

Date Sampled...: 01/31/05

Date Received...: 02/01/05

% Moisture.....: 14

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	86.4	85.1	%	1.4	(0-20)	MCAWW 160.3 MOD	02/01-02/02/05	5032304
							SD Lot-Sample #: A5B010177-007	

Dilution Factor: 1



# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan MGP Coke Site

## CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathal*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
----------	------	------	---------------------------	---------------	-------------------	------------	---------

	1/31/05	11:35	S-013105-PP-017	Soil	2	X X X	CAT 2-10
	1/31/05	11:45	S-013105-PP-019	Soil	2	X X X	CAT 2-11
	1/31/05		S-013105-PP-162	Soil	2	X X X	Standard verification
	1/31/05		S-013105-PP-163	Soil	2	X X X	
	1/31/05		S-013105-PP-164	Soil	2	X X X	
	1/31/05		S-013105-PP-165	Soil	2	X X X	
	1/31/05		S-013105-PP-166	Soil	2	X X X	
	1/31/05		S-013105-PP-167	Soil	2	X X X	
	1/31/05		S-013105-PP-168	Soil	2	X X X	
	1/31/05		S-013105-PP-169	Soil	2	X X X	
	1/31/05		S-013105-PP-170	Soil	2	X X X	
	1/31/05		W-013105-PP-502	WATER	3	X X X	
	1/31/05		S-013105-PP-171	Soil	2	X X X	
	1/31/05		S-013105-PP-172	Soil	2	X X X	
	1/31/05		S-013105-PP-173	Soil	2	X X X	
TOTAL NUMBER OF CONTAINERS					20		

RELINQUISHED BY: *[Signature]* DATE: 1/31/05 RECEIVED BY: *[Signature]* DATE: 1/31/05  
 TIME: 1:50 PM

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_

METHOD OF SHIPMENT: *F-EDGEX* AIR BILL No. *8490 1342 6151*

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: *P. PATHAL*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 2/10/05 TIME: 9:45 AM

12255



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Challenger MGP Cate Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Patricia Bataik*

PARAMETERS

Total Alkyls  
Site Specific

REMARKS

(1 WJK)  
(TAT)

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS
	1/31/05		5-013105-PP-174	Soil	2 X X	
<b>TOTAL NUMBER OF CONTAINERS</b>						
					2	

RELINQUISHED BY: *[Signature]*

DATE: 1/31/05  
TIME: 1:50

RECEIVED BY: *[Signature]*

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

RECEIVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

RECEIVED BY: \_\_\_\_\_

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

METHOD OF SHIPMENT: *FEDEX*

AIR BILL No. 8490 1342 6151

White -Fully Executed Copy

Yellow -Receiving Laboratory Copy

Pink -Shipper Copy

Goldenrod -Sampler Copy

SAMPLE TEAM:

*P. PANTHALI*

RECEIVED FOR LABORATORY BY:

*[Signature]*

112193

DATE: 2/10/05 TIME: 9:45 AM

**STL Cooler Receipt Form/Narrative**

Lot Number: 151010177

**North Canton Facility**

Client: CRA Project: Waukegan M&P Coke Site Quote#: \_\_\_\_\_  
 Cooler Received on: 2-01-05 Opened on: 2-01-05 by: Ann Maddup  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.3 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

✓ \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

\_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
<u>502</u>	<u>7.2</u>	<u>2-01-05</u>	<u>AM</u>



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5B030285**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

  
**Amy L. McCormick**  
Project Manager

**February 17, 2005**

# **CASE NARRATIVE**

A5B030285

The following report contains the analytical results for fifteen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 3, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 10, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.9°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-020205-PP-023 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

The matrix spike/matrix spike duplicate(s) for S-020205-PP-186 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

Surrogate recoveries were outside acceptance limits in samples S-020205-PP-021 and S-020205-PP-023. Re-extraction and/or reanalysis achieved similar results confirming probable matrix interference; therefore, the original data has been reported.

Sample(s) S-020205-PP-186 had elevated reporting limits due to matrix interference.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5B030285

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-020205-PP-175 02/02/05 10:14 001</b>				
Arsenic	3.9	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	24000	7200	ug/kg	SW846 8270C
Benzo(a)pyrene	16000	7200	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	8500	7200	ug/kg	SW846 8270C
Benzo(a)anthracene	18000	7200	ug/kg	SW846 8270C
Percent Solids	91.5	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-176 02/02/05 10:21 002</b>				
Arsenic	3.2	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	58000	18000	ug/kg	SW846 8270C
Benzo(a)pyrene	36000	18000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	19000	18000	ug/kg	SW846 8270C
Benzo(a)anthracene	51000	18000	ug/kg	SW846 8270C
Percent Solids	94.1	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-177 02/02/05 10:25 003</b>				
Arsenic	3.8	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	48000	15000	ug/kg	SW846 8270C
Benzo(a)pyrene	29000	15000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	15000	15000	ug/kg	SW846 8270C
Benzo(a)anthracene	37000	15000	ug/kg	SW846 8270C
Percent Solids	89.4	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-178 02/02/05 10:29 004</b>				
Arsenic	1.4	1.0	mg/kg	SW846 6010B
Benzo(b)fluoranthene	92000	27000	ug/kg	SW846 8270C
Benzo(a)pyrene	58000	27000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	38000	27000	ug/kg	SW846 8270C
Benzo(a)anthracene	82000	27000	ug/kg	SW846 8270C
Percent Solids	96.8	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-179 02/02/05 10:33 005</b>				
Arsenic	1.8	1.0	mg/kg	SW846 6010B
Benzo(b)fluoranthene	34000	8500	ug/kg	SW846 8270C
Benzo(a)pyrene	21000	8500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	11000	8500	ug/kg	SW846 8270C
Benzo(a)anthracene	29000	8500	ug/kg	SW846 8270C
Percent Solids	97.3	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B030285

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-020205-PP-180 02/02/05 10:38 006</b>				
Arsenic	7.0	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2500	900	ug/kg	SW846 8270C
Benzo(a)pyrene	1500	900	ug/kg	SW846 8270C
Benzo(a)anthracene	2400	900	ug/kg	SW846 8270C
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-181 02/02/05 10:42 007</b>				
Arsenic	3.7	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2600	780	ug/kg	SW846 8270C
Benzo(a)pyrene	1500	780	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	840	780	ug/kg	SW846 8270C
Benzo(a)anthracene	1800	780	ug/kg	SW846 8270C
Percent Solids	84.8	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-182 02/02/05 10:47 008</b>				
Arsenic	2.6	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4300	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	2800	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	4500	1600	ug/kg	SW846 8270C
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-183 02/02/05 10:50 009</b>				
Arsenic	2.3	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2000	780	ug/kg	SW846 8270C
Benzo(a)pyrene	1100	780	ug/kg	SW846 8270C
Benzo(a)anthracene	1400	780	ug/kg	SW846 8270C
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-184 02/02/05 10:54 010</b>				
Arsenic	2.3	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	23000	7500	ug/kg	SW846 8270C
Benzo(a)pyrene	14000	7500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	7800	7500	ug/kg	SW846 8270C
Benzo(a)anthracene	18000	7500	ug/kg	SW846 8270C
Percent Solids	87.7	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B030285

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-020205-PP-185 02/02/05 10:55 011</b>				
Arsenic	2.2	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	40000	11000	ug/kg	SW846 8270C
Benzo(a)pyrene	24000	11000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	12000	11000	ug/kg	SW846 8270C
Benzo(a)anthracene	36000	11000	ug/kg	SW846 8270C
Percent Solids	78.6	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-186 02/02/05 10:59 012</b>				
Arsenic	4.9	1.2	mg/kg	SW846 6010B
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD
<b>S-020205-PP-187 02/02/05 11:07 013</b>				
Arsenic	1.7	1.0	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4100	1400	ug/kg	SW846 8270C
Benzo(a)pyrene	2400	1400	ug/kg	SW846 8270C
Benzo(a)anthracene	3100	1400	ug/kg	SW846 8270C
Percent Solids	97.0	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5B030285

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B030285

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G3P6K	001	S-020205-PP-175	02/02/05	10:14
G3P6W	002	S-020205-PP-176	02/02/05	10:21
G3P6X	003	S-020205-PP-177	02/02/05	10:25
G3P60	004	S-020205-PP-178	02/02/05	10:29
G3P61	005	S-020205-PP-179	02/02/05	10:33
G3P62	006	S-020205-PP-180	02/02/05	10:38
G3P64	007	S-020205-PP-181	02/02/05	10:42
G3P65	008	S-020205-PP-182	02/02/05	10:47
G3P67	009	S-020205-PP-183	02/02/05	10:50
G3P68	010	S-020205-PP-184	02/02/05	10:54
G3P69	011	S-020205-PP-185	02/02/05	10:55
G3P7C	012	S-020205-PP-186	02/02/05	10:59
G3P7E	013	S-020205-PP-187	02/02/05	11:07
G3P7J	014	W-020205-PP-503	02/02/05	11:20
G3P7X	015	S-020205-PP-021	02/02/05	12:00
G3P72	016	S-020205-PP-023	02/02/05	12:10

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-175

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-001    Work Order #...: G3P6K1AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:14    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 20  
 % Moisture.....: 8.5    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	24000	7200	ug/kg
Benzo(a)pyrene	16000	7200	ug/kg
Dibenz(a,h)anthracene	ND	7200	ug/kg
Dibenzofuran	ND	7200	ug/kg
Indeno(1,2,3-cd)pyrene	8500	7200	ug/kg
4-Methylphenol	ND	7200	ug/kg
Naphthalene	ND	7200	ug/kg
Benzo(a)anthracene	18000	7200	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	58 DIL	(42 - 110)
2-Fluorobiphenyl	56 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	55 DIL	(25 - 115)
2-Fluorophenol	56 DIL	(11 - 116)
2,4,6-Tribromophenol	57 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-175

TOTAL Metals

Lot-Sample #...: A5B030285-001

Matrix.....: SO

Date Sampled...: 02/02/05 10:14 Date Received...: 02/03/05

% Moisture.....: 8.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	3.9	1.1	mg/kg	SW846 6010B	02/04/05	G3P6K1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-175

General Chemistry

Lot-Sample #...: A5B030285-001    Work Order #...: G3P6K    Matrix.....: SO  
Date Sampled...: 02/02/05 10:14    Date Received..: 02/03/05  
% Moisture.....: 8.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.5	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-176

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-002    Work Order #...: G3P6W1AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:21    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 50  
 % Moisture.....: 5.9    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	58000	18000	ug/kg
Benzo(a)pyrene	36000	18000	ug/kg
Dibenz(a,h)anthracene	ND	18000	ug/kg
Dibenzofuran	ND	18000	ug/kg
Indeno(1,2,3-cd)pyrene	19000	18000	ug/kg
4-Methylphenol	ND	18000	ug/kg
Naphthalene	ND	18000	ug/kg
Benzo(a)anthracene	51000	18000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-176

TOTAL Metals

Lot-Sample #...: A5B030285-002

Matrix.....: SO

Date Sampled...: 02/02/05 10:21 Date Received...: 02/03/05

% Moisture.....: 5.9

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	3.2	1.1	mg/kg	SW846 6010B	02/04/05	G3P6W1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-176

General Chemistry

Lot-Sample #...: A5B030285-002    Work Order #...: G3P6W    Matrix.....: SO  
Date Sampled...: 02/02/05 10:21    Date Received..: 02/03/05  
% Moisture.....: 5.9

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	94.1	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-177

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-003    Work Order #...: G3P6X1AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:25    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 40  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	48000	15000	ug/kg
Benzo(a)pyrene	29000	15000	ug/kg
Dibenz(a,h)anthracene	ND	15000	ug/kg
Dibenzofuran	ND	15000	ug/kg
Indeno(1,2,3-cd)pyrene	15000	15000	ug/kg
4-Methylphenol	ND	15000	ug/kg
Naphthalene	ND	15000	ug/kg
Benzo(a)anthracene	37000	15000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	55 DIL	(25 - 115)
2-Fluorophenol	55 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-177

TOTAL Metals

Lot-Sample #...: A5B030285-003

Matrix.....: SO

Date Sampled...: 02/02/05 10:25 Date Received...: 02/03/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	3.8	1.1	mg/kg	SW846 6010B	02/04/05	G3P6X1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-177

General Chemistry

Lot-Sample #...: A5B030285-003    Work Order #...: G3P6X    Matrix.....: SO  
Date Sampled...: 02/02/05 10:25    Date Received..: 02/03/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.4	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-178

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-004    Work Order #...: G3P601AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:29    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 80  
 % Moisture.....: 3.2    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	92000	27000	ug/kg
Benzo(a)pyrene	58000	27000	ug/kg
Dibenz(a,h)anthracene	ND	27000	ug/kg
Dibenzofuran	ND	27000	ug/kg
Indeno(1,2,3-cd)pyrene	38000	27000	ug/kg
4-Methylphenol	ND	27000	ug/kg
Naphthalene	ND	27000	ug/kg
Benzo(a)anthracene	82000	27000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-178

TOTAL Metals

Lot-Sample #...: A5B030285-004

Matrix.....: SO

Date Sampled...: 02/02/05 10:29 Date Received...: 02/03/05

% Moisture.....: 3.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	1.4	1.0	mg/kg	SW846 6010B	02/04/05	G3P601AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-178

General Chemistry

Lot-Sample #...: A5B030285-004    Work Order #...: G3P60    Matrix.....: SO  
Date Sampled...: 02/02/05 10:29    Date Received..: 02/03/05  
% Moisture.....: 3.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	96.8	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-179

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-005    Work Order #...: G3P611AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:33    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 25  
 % Moisture.....: 2.7    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	34000	8500	ug/kg
Benzo(a)pyrene	21000	8500	ug/kg
Dibenz(a,h)anthracene	ND	8500	ug/kg
Dibenzofuran	ND	8500	ug/kg
Indeno(1,2,3-cd)pyrene	11000	8500	ug/kg
4-Methylphenol	ND	8500	ug/kg
Naphthalene	ND	8500	ug/kg
Benzo(a)anthracene	29000	8500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	63 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	87 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	53 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-179

TOTAL Metals

Lot-Sample #...: A5B030285-005

Matrix.....: SO

Date Sampled...: 02/02/05 10:33 Date Received...: 02/03/05

% Moisture.....: 2.7

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	1.8	1.0	mg/kg	SW846 6010B	02/04/05	G3P611AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-179

General Chemistry

Lot-Sample #...: A5B030285-005    Work Order #...: G3P61    Matrix.....: SO  
Date Sampled...: 02/02/05 10:33    Date Received..: 02/03/05  
% Moisture.....: 2.7

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	97.3	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-180

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-006    Work Order #...: G3P621AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:38    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 2.5  
 % Moisture.....: 8.3    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	2500	900	ug/kg
Benzo(a)pyrene	1500	900	ug/kg
Dibenz(a,h)anthracene	ND	900	ug/kg
Dibenzofuran	ND	900	ug/kg
Indeno(1,2,3-cd)pyrene	ND	900	ug/kg
4-Methylphenol	ND	900	ug/kg
Naphthalene	ND	900	ug/kg
Benzo(a)anthracene	2400	900	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	52 DIL	(42 - 110)
2-Fluorobiphenyl	56 DIL	(43 - 110)
Terphenyl-d14	69 DIL	(37 - 137)
Phenol-d5	57 DIL	(25 - 115)
2-Fluorophenol	52 DIL	(11 - 116)
2,4,6-Tribromophenol	55 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-180

TOTAL Metals

Lot-Sample #...: A5B030285-006

Matrix.....: SO

Date Sampled...: 02/02/05 10:38 Date Received...: 02/03/05

% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	7.0	1.1	mg/kg	SW846 6010B	02/04/05	G3P621AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-180

General Chemistry

Lot-Sample #...: A5B030285-006    Work Order #...: G3P62    Matrix.....: SO  
Date Sampled...: 02/02/05 10:38    Date Received..: 02/03/05  
% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-181

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-007    Work Order #...: G3P641AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:42    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 2  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2600	780	ug/kg
Benzo(a)pyrene	1500	780	ug/kg
Dibenz(a,h)anthracene	ND	780	ug/kg
Dibenzofuran	ND	780	ug/kg
Indeno(1,2,3-cd)pyrene	840	780	ug/kg
4-Methylphenol	ND	780	ug/kg
Naphthalene	ND	780	ug/kg
Benzo(a)anthracene	1800	780	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	61 DIL	(42 - 110)
2-Fluorobiphenyl	59 DIL	(43 - 110)
Terphenyl-d14	67 DIL	(37 - 137)
Phenol-d5	63 DIL	(25 - 115)
2-Fluorophenol	59 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-181

TOTAL Metals

Lot-Sample #...: A5B030285-007

Matrix.....: SO

Date Sampled...: 02/02/05 10:42 Date Received...: 02/03/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	3.7	1.2	mg/kg	SW846 6010B	02/04/05	G3P641AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-181

General Chemistry

Lot-Sample #...: A5B030285-007    Work Order #...: G3P64    Matrix.....: SO  
Date Sampled...: 02/02/05 10:42    Date Received..: 02/03/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.8	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-182

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-008    Work Order #...: G3P651AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:47    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 4  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	4300	1600	ug/kg
Benzo(a)pyrene	2800	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	ND	1600	ug/kg
Benzo(a)anthracene	4500	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	61 DIL	(43 - 110)
Terphenyl-d14	70 DIL	(37 - 137)
Phenol-d5	59 DIL	(25 - 115)
2-Fluorophenol	54 DIL	(11 - 116)
2,4,6-Tribromophenol	43 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-182

TOTAL Metals

Lot-Sample #...: A5B030285-008

Matrix.....: SO

Date Sampled...: 02/02/05 10:47 Date Received...: 02/03/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	2.6	1.2	mg/kg	SW846 6010B	02/04/05	G3P651AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-182

General Chemistry

Lot-Sample #...: A5B030285-008    Work Order #...: G3P65    Matrix.....: SO  
Date Sampled...: 02/02/05 10:47    Date Received..: 02/03/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-183

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-009    Work Order #...: G3P671AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:50    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 2  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2000	780	ug/kg
Benzo(a)pyrene	1100	780	ug/kg
Dibenz(a,h)anthracene	ND	780	ug/kg
Dibenzofuran	ND	780	ug/kg
Indeno(1,2,3-cd)pyrene	ND	780	ug/kg
4-Methylphenol	ND	780	ug/kg
Naphthalene	ND	780	ug/kg
Benzo(a)anthracene	1400	780	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	54 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	67 DIL	(37 - 137)
Phenol-d5	57 DIL	(25 - 115)
2-Fluorophenol	53 DIL	(11 - 116)
2,4,6-Tribromophenol	57 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-183

TOTAL Metals

Lot-Sample #...: A5B030285-009

Matrix.....: SO

Date Sampled...: 02/02/05 10:50 Date Received...: 02/03/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	2.3	1.2	mg/kg	SW846 6010B	02/04/05	G3P671AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-183

General Chemistry

Lot-Sample #...: A5B030285-009    Work Order #...: G3P67    Matrix.....: SO  
Date Sampled...: 02/02/05 10:50    Date Received..: 02/03/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-184

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-010    Work Order #...: G3P681AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:54    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 20  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	23000	7500	ug/kg
Benzo(a)pyrene	14000	7500	ug/kg
Dibenz(a,h)anthracene	ND	7500	ug/kg
Dibenzofuran	ND	7500	ug/kg
Indeno(1,2,3-cd)pyrene	7800	7500	ug/kg
4-Methylphenol	ND	7500	ug/kg
Naphthalene	ND	7500	ug/kg
Benzo(a)anthracene	18000	7500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	53 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	55 DIL	(25 - 115)
2-Fluorophenol	49 DIL	(11 - 116)
2,4,6-Tribromophenol	50 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-184

TOTAL Metals

Lot-Sample #...: A5B030285-010

Matrix.....: SO

Date Sampled...: 02/02/05 10:54 Date Received...: 02/03/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	2.3	1.1	mg/kg	SW846 6010B	02/04/05	G3P681AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-184

General Chemistry

Lot-Sample #...: A5B030285-010    Work Order #...: G3P68    Matrix.....: SO  
Date Sampled...: 02/02/05 10:54    Date Received..: 02/03/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.7	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-185

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-011    Work Order #...: G3P691AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:55    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 25  
 % Moisture.....: 21    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	40000	11000	ug/kg
Benzo(a)pyrene	24000	11000	ug/kg
Dibenz(a,h)anthracene	ND	11000	ug/kg
Dibenzofuran	ND	11000	ug/kg
Indeno(1,2,3-cd)pyrene	12000	11000	ug/kg
4-Methylphenol	ND	11000	ug/kg
Naphthalene	ND	11000	ug/kg
Benzo(a)anthracene	36000	11000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	63 DIL	(42 - 110)
2-Fluorobiphenyl	62 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	62 DIL	(25 - 115)
2-Fluorophenol	61 DIL	(11 - 116)
2,4,6-Tribromophenol	47 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-185

TOTAL Metals

Lot-Sample #...: A5B030285-011

Matrix.....: SO

Date Sampled...: 02/02/05 10:55 Date Received...: 02/03/05

% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	2.2	1.3	mg/kg	SW846 6010B	02/04/05	G3P691AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-185

General Chemistry

Lot-Sample #...: A5B030285-011    Work Order #...: G3P69    Matrix.....: SO  
Date Sampled...: 02/02/05 10:55    Date Received..: 02/03/05  
% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.6	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-186

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-012    Work Order #...: G3P7C1AF    Matrix.....: SO  
 Date Sampled...: 02/02/05 10:59    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/08/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 5  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	2000	ug/kg
Benzo(a)pyrene	ND	2000	ug/kg
Dibenz(a,h)anthracene	ND	2000	ug/kg
Dibenzofuran	ND	2000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	2000	ug/kg
4-Methylphenol	ND	2000	ug/kg
Naphthalene	ND	2000	ug/kg
Benzo(a)anthracene	ND	2000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	64 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	63 DIL	(25 - 115)
2-Fluorophenol	51 DIL	(11 - 116)
2,4,6-Tribromophenol	41 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-186

TOTAL Metals

Lot-Sample #...: A5B030285-012

Matrix.....: SO

Date Sampled...: 02/02/05 10:59 Date Received...: 02/03/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	4.9	1.2	mg/kg	SW846 6010B	02/04/05	G3P7C1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-186

General Chemistry

Lot-Sample #...: A5B030285-012    Work Order #...: G3P7C    Matrix.....: SO  
Date Sampled...: 02/02/05 10:59    Date Received..: 02/03/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-187

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-013    Work Order #...: G3P7E1AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 11:07    Date Received...: 02/03/05  
 Prep Date.....: 02/04/05    Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 4  
 % Moisture.....: 3.0    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	4100	1400	ug/kg
Benzo(a)pyrene	2400	1400	ug/kg
Dibenz(a,h)anthracene	ND	1400	ug/kg
Dibenzofuran	ND	1400	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1400	ug/kg
4-Methylphenol	ND	1400	ug/kg
Naphthalene	ND	1400	ug/kg
Benzo(a)anthracene	3100	1400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	50 DIL	(42 - 110)
2-Fluorobiphenyl	55 DIL	(43 - 110)
Terphenyl-d14	70 DIL	(37 - 137)
Phenol-d5	54 DIL	(25 - 115)
2-Fluorophenol	50 DIL	(11 - 116)
2,4,6-Tribromophenol	60 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-187

TOTAL Metals

Lot-Sample #...: A5B030285-013

Matrix.....: SO

Date Sampled...: 02/02/05 11:07 Date Received...: 02/03/05

% Moisture.....: 3.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5035023

Arsenic	1.7	1.0	mg/kg	SW846 6010B	02/04/05	G3P7E1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-187

General Chemistry

Lot-Sample #...: A5B030285-013    Work Order #...: G3P7E    Matrix.....: SO  
Date Sampled...: 02/02/05 11:07    Date Received..: 02/03/05  
% Moisture.....: 3.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	97.0	10.0	%	MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-020205-PP-503

GC/MS Semivolatiles

Lot-Sample #...: A5B030285-014    Work Order #...: G3P7J1AC    Matrix.....: WG  
 Date Sampled...: 02/02/05 11:20    Date Received...: 02/03/05  
 Prep Date.....: 02/05/05    Analysis Date...: 02/08/05  
 Prep Batch #...: 5036022  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	73	( 32 - 112)
2-Fluorobiphenyl	65	( 30 - 110)
Terphenyl-d14	74	( 10 - 144)
Phenol-d5	69	( 10 - 113)
2-Fluorophenol	67	( 13 - 110)
2,4,6-Tribromophenol	69	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-020205-PP-503

TOTAL Metals

Lot-Sample #...: A5B030285-014

Matrix.....: WG

Date Sampled...: 02/02/05 11:20 Date Received...: 02/03/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5035026						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/04/05	G3P7J1AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-021

TCLP GC/MS Volatiles

Lot-Sample #...: A5B030285-015    Work Order #...: G3P7X1AA    Matrix.....: SO  
 Date Sampled...: 02/02/05 12:00    Date Received...: 02/03/05  
 Leach Date.....: 02/07/05    Prep Date.....: 02/09/05    Analysis Date...: 02/09/05  
 Leach Batch #..: P503809    Prep Batch #...: 5041209  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-021

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B030285-015    Work Order #...: G3P7X1AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 12:00    Date Received..: 02/03/05  
 Leach Date.....: 02/04/05    Prep Date.....: 02/05/05    Analysis Date..: 02/07/05  
 Leach Batch #..: P503503    Prep Batch #...: 5036044  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71	( 32 - 112 )
2-Fluorobiphenyl	63	( 30 - 110 )
Terphenyl-d14	71	( 10 - 144 )
Phenol-d5	20	( 10 - 113 )
2-Fluorophenol	3.6 *	( 13 - 110 )
2,4,6-Tribromophenol	8.5 *	( 21 - 122 )

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-021

TCLP Metals

Lot-Sample #...: A5B030285-015

Matrix.....: SO

Date Sampled...: 02/02/05 12:00 Date Received...: 02/03/05

Leach Date.....: 02/04/05 Leach Batch #...: P503503

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5038025						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/07/05	G3P7X1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-023

TCLP GC/MS Volatiles

Lot-Sample #...: A5B030285-016    Work Order #...: G3P721AA    Matrix.....: SO  
 Date Sampled...: 02/02/05 12:10    Date Received...: 02/03/05  
 Leach Date.....: 02/07/05    Prep Date.....: 02/09/05    Analysis Date...: 02/09/05  
 Leach Batch #..: P503809    Prep Batch #...: 5041209  
 Dilution Factor: 10  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.25	mg/L
Carbon tetrachloride	ND	0.25	mg/L
Chlorobenzene	ND	0.25	mg/L
Chloroform	ND	0.25	mg/L
1,2-Dichloroethane	ND	0.25	mg/L
1,1-Dichloroethylene	ND	0.70	mg/L
Methyl ethyl ketone	ND	0.50	mg/L
Tetrachloroethylene	ND	0.70	mg/L
Trichloroethylene	ND	0.50	mg/L
Vinyl chloride	ND	0.25	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	99	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-023

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B030285-016    Work Order #...: G3P721AD    Matrix.....: SO  
 Date Sampled...: 02/02/05 12:10    Date Received..: 02/03/05  
 Leach Date.....: 02/04/05    Prep Date.....: 02/05/05    Analysis Date..: 02/07/05  
 Leach Batch #..: P503503    Prep Batch #...: 5036044  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	133 *	(32 - 112)
2-Fluorobiphenyl	72	(30 - 110)
Terphenyl-d14	76	(10 - 144)
Phenol-d5	16	(10 - 113)
2-Fluorophenol	3.4 *	(13 - 110)
2,4,6-Tribromophenol	7.7 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020205-PP-023

TCLP Metals

Lot-Sample #...: A5B030285-016

Matrix.....: SO

Date Sampled...: 02/02/05 12:10 Date Received...: 02/03/05

Leach Date.....: 02/04/05 Leach Batch #...: P503503

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5038025						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/07/05	G3P721AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B030285      Work Order #...: G3XJL1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B070000-234  
 Leach Date.....: 02/07/05      Prep Date.....: 02/09/05      Analysis Date..: 02/09/05  
 Leach Batch #..: P503809      Prep Batch #...: 5041209  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	104	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285  
MB Lot-Sample #: A5B040000-031

Work Order #...: G3RFG1AA

Matrix.....: SOLID

Prep Date.....: 02/04/05

Analysis Date..: 02/07/05

Prep Batch #...: 5035031

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	51	( 42 - 110)
2-Fluorobiphenyl	50	( 43 - 110)
Terphenyl-d14	63	( 37 - 137)
Phenol-d5	47	( 25 - 115)
2-Fluorophenol	49	( 11 - 116)
2,4,6-Tribromophenol	46	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285  
MB Lot-Sample #: A5B050000-022

Work Order #...: G3VL61AA

Matrix.....: WATER

Prep Date.....: 02/05/05

Analysis Date..: 02/08/05

Prep Batch #...: 5036022

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	81	( 32 - 112)
2-Fluorobiphenyl	76	( 30 - 110)
Terphenyl-d14	85	( 10 - 144)
Phenol-d5	78	( 10 - 113)
2-Fluorophenol	77	( 13 - 110)
2,4,6-Tribromophenol	76	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3VX21AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B050000-044  
 Leach Date.....: 02/04/05      Prep Date.....: 02/05/05      Analysis Date..: 02/07/05  
 Leach Batch #..: P503503      Prep Batch #...: 5036044  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	63	( 32 - 112)
2-Fluorobiphenyl	57	( 30 - 110)
Terphenyl-d14	64	( 10 - 144)
Phenol-d5	50	( 10 - 113)
2-Fluorophenol	55	( 13 - 110)
2,4,6-Tribromophenol	63	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B040000-023		<b>Prep Batch #...</b> : 5035023				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/04/05	G3RE01AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B040000-026		<b>Prep Batch #...</b> : 5035026				
Arsenic	ND	0.010	mg/L	SW846 6010B	02/04/05	G3RE61AE
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5B040000-261	Prep Batch #...:	5038025			
Leach Date.....:	02/04/05	Leach Batch #...:	P503503			
Arsenic	ND	0.50	mg/L	SW846 6010B	02/07/05	G3R7W1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B070000-025		<b>Prep Batch #...</b> : 5038025				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/07/05	G3WM71AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G3R801AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5B040000-260 02/04-02/07/05	5035260

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B030285      Work Order #...: G354E1AA-LCS      Matrix.....: WASTE  
 LCS Lot-Sample#: A5B100000-209      G354E1AC-LCSD  
 Prep Date.....: 02/09/05      Analysis Date...: 02/09/05  
 Prep Batch #...: 5041209  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>104</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	<b>106</b>	<b>(76 - 118)</b>	<b>1.6</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>102</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	<b>102</b>	<b>(76 - 113)</b>	<b>0.020</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	<b>109</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	<b>101</b>	<b>(67 - 128)</b>	<b>6.9</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	<b>104</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	<b>103</b>	<b>(76 - 119)</b>	<b>1.2</b>	<b>(0-20)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>105</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	<b>104</b>	<b>(72 - 117)</b>	<b>1.4</b>	<b>(0-30)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 124)
	104	(86 - 124)
1,2-Dichloroethane-d4	94	(80 - 122)
	100	(80 - 122)
Toluene-d8	100	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)
	106	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3RFG1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B040000-031  
 Prep Date.....: 02/04/05      Analysis Date...: 02/07/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	63	(45 - 110)	SW846 8270C
Acenaphthene	65	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	80	(48 - 111)	SW846 8270C
Pyrene	76	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	65	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	74	(38 - 110)	SW846 8270C
Pentachlorophenol	74	(10 - 123)	SW846 8270C
Phenol	64	(35 - 110)	SW846 8270C
2-Chlorophenol	64	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	64	(43 - 110)	SW846 8270C
4-Nitrophenol	68	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	49	(42 - 110)
2-Fluorobiphenyl	47	(43 - 110)
Terphenyl-d14	62	(37 - 137)
Phenol-d5	49	(25 - 115)
2-Fluorophenol	49	(11 - 116)
2,4,6-Tribromophenol	58	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3VL61AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5B050000-022      G3VL61AD-LCSD  
 Prep Date.....: 02/05/05      Analysis Date...: 02/08/05  
 Prep Batch #...: 5036022  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	67	(31 - 110)			SW846 8270C
	69	(31 - 110)	1.6	(0-37)	SW846 8270C
Acenaphthene	72	(39 - 118)			SW846 8270C
	74	(39 - 118)	3.5	(0-35)	SW846 8270C
2,4-Dinitrotoluene	76	(47 - 131)			SW846 8270C
	79	(47 - 131)	3.0	(0-32)	SW846 8270C
Pyrene	73	(46 - 130)			SW846 8270C
	77	(46 - 130)	4.6	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl- amine	79	(30 - 115)			SW846 8270C
	80	(30 - 115)	2.2	(0-36)	SW846 8270C
1,4-Dichlorobenzene	78	(28 - 110)			SW846 8270C
	75	(28 - 110)	3.2	(0-36)	SW846 8270C
Pentachlorophenol	75	(10 - 140)			SW846 8270C
	78	(10 - 140)	3.7	(0-56)	SW846 8270C
Phenol	73	(10 - 131)			SW846 8270C
	74	(10 - 131)	1.4	(0-43)	SW846 8270C
2-Chlorophenol	74	(19 - 124)			SW846 8270C
	74	(19 - 124)	0.19	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	68	(29 - 124)			SW846 8270C
	71	(29 - 124)	4.5	(0-55)	SW846 8270C
4-Nitrophenol	71	(19 - 144)			SW846 8270C
	72	(19 - 144)	2.1	(0-34)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	79	(32 - 112)
	83	(32 - 112)
2-Fluorobiphenyl	74	(30 - 110)
	76	(30 - 110)
Terphenyl-d14	77	(10 - 144)
	81	(10 - 144)
Phenol-d5	76	(10 - 113)
	78	(10 - 113)
2-Fluorophenol	78	(13 - 110)
	79	(13 - 110)
2,4,6-Tribromophenol	75	(21 - 122)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3VX21AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B050000-044      G3VX21AD-LCSD  
 Prep Date.....: 02/05/05      Analysis Date...: 02/07/05  
 Prep Batch #...: 5036044  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
o-Cresol	62	(33 - 115)			SW846 8270C
	62	(33 - 115)	0.51	(0-31)	SW846 8270C
m-Cresol & p-Cresol	63	(46 - 109)			SW846 8270C
	62	(46 - 109)	2.0	(0-32)	SW846 8270C
1,4-Dichlorobenzene	47	(28 - 110)			SW846 8270C
	57	(28 - 110)	19	(0-36)	SW846 8270C
2,4-Dinitrotoluene	63	(47 - 131)			SW846 8270C
	70	(47 - 131)	10	(0-32)	SW846 8270C
Hexachlorobenzene	64	(57 - 128)			SW846 8270C
	66	(57 - 128)	3.7	(0-22)	SW846 8270C
Hexachlorobutadiene	44	(36 - 116)			SW846 8270C
	52	(36 - 116)	16	(0-32)	SW846 8270C
Hexachloroethane	45	(30 - 110)			SW846 8270C
	46	(30 - 110)	3.5	(0-33)	SW846 8270C
Nitrobenzene	60	(45 - 130)			SW846 8270C
	66	(45 - 130)	9.3	(0-50)	SW846 8270C
Pentachlorophenol	66	(10 - 140)			SW846 8270C
	68	(10 - 140)	1.8	(0-56)	SW846 8270C
Pyridine	62	(10 - 148)			SW846 8270C
	65	(10 - 148)	3.9	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	63	(41 - 125)			SW846 8270C
	66	(41 - 125)	5.1	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	57	(46 - 135)			SW846 8270C
	62	(46 - 135)	8.4	(0-27)	SW846 8270C
Cresols (total)	63	(46 - 109)			SW846 8270C
	62	(46 - 109)	1.2	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	61	(32 - 112)
	68	(32 - 112)
2-Fluorobiphenyl	56	(30 - 110)
	64	(30 - 110)
Terphenyl-d14	64	(10 - 144)
	68	(10 - 144)
Phenol-d5	56	(10 - 113)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B040000-023	Prep Batch #...:	5035023		
Arsenic	88	(80 - 120)	SW846 6010B	02/04/05	G3RE01AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B040000-026 Prep Batch #...: 5035026

Arsenic	93	(80 - 120)	SW846 6010B	02/04/05	G3RE61AL
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B030285

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B070000-025	Prep Batch #...:	5038025		
Arsenic	103	(50 - 150)	SW846 6010B	02/07/05	G3WM71AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B030285      Work Order #...: G3P1M1AU-MS      Matrix.....: WASTE  
 MS Lot-Sample #: A5B030242-003      G3P1M1AV-MSD  
 Date Sampled...: 02/02/05 09:55      Date Received...: 02/03/05  
 Leach Date.....: 02/07/05      Prep Date.....: 02/09/05      Analysis Date...: 02/09/05  
 Leach Batch #...: P503809      Prep Batch #...: 5041209  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	104	(76 - 117)			SW846 8260B
	104	(76 - 117)	0.81	(0-30)	SW846 8260B
Chlorobenzene	104	(72 - 114)			SW846 8260B
	104	(72 - 114)	0.11	(0-30)	SW846 8260B
1,1-Dichloroethylene	113	(67 - 129)			SW846 8260B
	113	(67 - 129)	0.01	(0-30)	SW846 8260B
Trichloroethylene	106	(72 - 121)			SW846 8260B
	106	(72 - 121)	0.27	(0-30)	SW846 8260B
Toluene	106	(67 - 113)			SW846 8260B
	104	(67 - 113)	1.6	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 125)
	97	(86 - 125)
1,2-Dichloroethane-d4	88	(80 - 122)
	88	(80 - 122)
Toluene-d8	105	(90 - 122)
	104	(90 - 122)
4-Bromofluorobenzene	95	(84 - 125)
	96	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3P7C1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B030285-012      G3P7C1AH-MSD  
 Date Sampled...: 02/02/05 10:59      Date Received...: 02/03/05  
 Prep Date.....: 02/04/05      Analysis Date...: 02/08/05  
 Prep Batch #...: 5035031  
 Dilution Factor: 5

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	79 DIL	(16 - 121)			SW846 8270C
	89 DIL	(16 - 121)	12	(0-54)	SW846 8270C
Acenaphthene	91 DIL	(13 - 133)			SW846 8270C
	101 DIL	(13 - 133)	10	(0-44)	SW846 8270C
2,4-Dinitrotoluene	72 DIL	(10 - 171)			SW846 8270C
	85 DIL	(10 - 171)	16	(0-45)	SW846 8270C
Pyrene	231 DIL,a	(10 - 218)			SW846 8270C
	365 DIL,a	(10 - 218)	42	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	82 DIL	(12 - 128)			SW846 8270C
	93 DIL	(12 - 128)	12	(0-50)	SW846 8270C
1,4-Dichlorobenzene	86 DIL	(18 - 110)			SW846 8270C
	112 DIL,a	(18 - 110)	26	(0-59)	SW846 8270C
Pentachlorophenol	50 DIL	(10 - 144)			SW846 8270C
	60 DIL	(10 - 144)	17	(0-87)	SW846 8270C
Phenol	72 DIL	(10 - 148)			SW846 8270C
	94 DIL	(10 - 148)	26	(0-50)	SW846 8270C
2-Chlorophenol	73 DIL	(17 - 116)			SW846 8270C
	89 DIL	(17 - 116)	19	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	72 DIL	(17 - 128)			SW846 8270C
	85 DIL	(17 - 128)	16	(0-55)	SW846 8270C
4-Nitrophenol	79 DIL	(10 - 148)			SW846 8270C
	69 DIL	(10 - 148)	14	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	59 DIL	(42 - 110)
	69 DIL	(42 - 110)
2-Fluorobiphenyl	61 DIL	(43 - 110)
	68 DIL	(43 - 110)
Terphenyl-d14	66 DIL	(37 - 137)
	73 DIL	(37 - 137)
Phenol-d5	60 DIL	(25 - 115)
	68 DIL	(25 - 115)
2-Fluorophenol	50 DIL	(11 - 116)
	66 DIL	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B030285      Work Order #...: G3P7C1AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5B030285-012      G3P7C1AH-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	54 DIL	(35 - 116)
	65 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: SO

Date Sampled...: 02/02/05 10:59 Date Received...: 02/03/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B030285-012 Prep Batch #...: 5035023

Arsenic	83	(75 - 125)			SW846 6010B	02/04/05	G3P7C1AD
	86	(75 - 125)	4.2	(0-20)	SW846 6010B	02/04/05	G3P7C1AE

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B030285

Matrix.....: WATER

Date Sampled...: 02/01/05 10:00 Date Received...: 02/03/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B030173-001 Prep Batch #...: 5035026

Arsenic	97	(75 - 125)			SW846 6010B	02/04/05	G3PK31AN
	98	(75 - 125)	0.68	(0-20)	SW846 6010B	02/04/05	G3PK31AP

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B030285

Matrix.....: SO

Date Sampled...: 02/02/05 12:00 Date Received...: 02/03/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B030285-015 Prep Batch #...: 5038025

Leach Date.....: 02/04/05 Leach Batch #...: P503503

Arsenic	109	(50 - 150)			SW846 6010B	02/07/05	G3P7X1AG
	108	(50 - 150)	1.0	(0-20)	SW846 6010B	02/07/05	G3P7X1AH

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B030285

Work Order #...: G3P7C-SMP  
G3P7C-DUP

Matrix.....: SO

Date Sampled...: 02/02/05 10:59 Date Received...: 02/03/05

% Moisture.....: 18

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	81.7	81.9	%	0.25	(0-20)	SD Lot-Sample #: A5B030285-012 MCAWW 160.3 MOD	02/04-02/07/05	5035260

Dilution Factor: 1



# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Washington MGP Colle Site

### CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *R. P. Hask*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
	2/2/05	10 <sup>44</sup>	S-020205-PP-175	Soil	1	Total Aerobic Site Specific Temp VOCs Temp SVOCs Temp Aroclor	
	2/2/05	10 <sup>34</sup>	S-020205-PP-176	Soil	1		
	2/2/05	10 <sup>35</sup>	S-020205-PP-177	Soil	1		
	2/2/05	10 <sup>39</sup>	S-020205-PP-178	Soil	1		
	2/2/05	10 <sup>33</sup>	S-020205-PP-179	Soil	1		
	2/2/05	10 <sup>38</sup>	S-020205-PP-180	Soil	1		
	2/2/05	10 <sup>42</sup>	S-020205-PP-181	Soil	1		
	2/2/05	10 <sup>47</sup>	S-020205-PP-182	Soil	1		
	2/2/05	10 <sup>50</sup>	S-020205-PP-183	Soil	1		
	2/2/05	10 <sup>34</sup>	S-020205-PP-184	Soil	1		
	2/2/05	10 <sup>55</sup>	S-020205-PP-185	Soil	1		
	2/2/05	10 <sup>59</sup>	S-020205-PP-186	Soil	2		
	2/2/05	11 <sup>07</sup>	S-020205-PP-187	Soil	1		
	2/2/05	11 <sup>20</sup>	S-020205-PP-503	Water	3		
	2/2/05	12 <sup>00</sup>	S-020205-PP-021	Soil	2		
TOTAL NUMBER OF CONTAINERS					19		

{2011 TRAT}

MS/MSD

CAT 2-12

RELINQUISHED BY: *[Signature]* DATE: 2-2-05 TIME: 15:00 RECEIVED BY: *[Signature]* DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: *FED EX* AIR BILL No. *8490 1342 6182*

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: *P. P. Hask*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 2-3-05 TIME: 9:50am

12256

**CONESTOGA-ROVERS & ASSOCIATES**  
 8615 W. Bryn Mawr Avenue  
 Chicago, Illinois 60631  
 (773)380-9933 phone  
 (773)380-6421 fax



CHAIN-OF-CUSTODY RECORD

SHIPPED TO  
 (Laboratory Name):

STL

REFERENCE NUMBER:  
 019023-84

PROJECT NAME:  
 Washburn MGP Site

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *P. Tesh Pathak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
	2/2/5	12 <sup>10</sup>	S-020205-PP-023	Soil	2	Temp Vocs Temp Subst Temp Metals	CAT 2-13
TOTAL NUMBER OF CONTAINERS							

{ 2 vials }  
 TRAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 2-2-05	RECEIVED BY: <i>[Signature]</i>	DATE: _____
RELINQUISHED BY: _____	TIME: 15 <sup>00</sup>	RECEIVED BY: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: _____	TIME: _____

METHOD OF SHIPMENT: *FEDEX* AIR BILL No. *8490 1342 6162*

White -Fully Executed Copy  
 Yellow -Receiving Laboratory Copy  
 Pink -Shipper Copy  
 Goldenrod -Sampler Copy

SAMPLE TEAM: *P. Pathak*

RECEIVED FOR LABORATORY BY: *[Signature]* 12188  
 DATE: 2-3-05 TIME: 9:30am

**STL Cooler Receipt Form/Narrative**

Lot Number: H513050285

**North Canton Facility**

Client: CRA Project: Waukegan Quote#: \_\_\_\_\_  
 Cooler Received on: 2-03-05 Opened on: 2-03-05 by: Ann Maddux  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.9 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

√ \_\_\_\_\_

**1. CHAIN OF CUSTODY**  
 The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**  
 Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO3; Sulfuric Acid Lot # 102804-H2SO4; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH3COO2ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**  
 \_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
<u>503</u>	<u>6.2</u>	<u>2-3-05</u>	<u>Am</u>

SOP: NC-SC-0005, Sample Receiving  
 N:\QAQC\NARRATIVE\STL\Cooler Receipt STL\COOLER\_STL\_Rev45 112204.doc



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5B080210

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

February 18, 2005

## **CASE NARRATIVE**

A5B080210

The following report contains the analytical results for five solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 08, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 15, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.1°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-020705-PP-027 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5B080210

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-020705-PP-025 02/07/05 10:35 001</b>				
m-Cresol & p-Cresol	2.6	2.0	mg/L	SW846 8270C
<b>S-020705-PP-188 02/07/05 10:05 003</b>				
Arsenic	2.4	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	410	390	ug/kg	SW846 8270C
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD
<b>S-020705-PP-189 02/07/05 10:08 004</b>				
Arsenic	6.1	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3200	940	ug/kg	SW846 8270C
Benzo(a)pyrene	2400	940	ug/kg	SW846 8270C
Dibenzofuran	1200	940	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1100	940	ug/kg	SW846 8270C
Naphthalene	1600	940	ug/kg	SW846 8270C
Benzo(a)anthracene	3200	940	ug/kg	SW846 8270C
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD
<b>S-020705-PP-190 02/07/05 10:12 005</b>				
Arsenic	17.8	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1500	410	ug/kg	SW846 8270C
Benzo(a)pyrene	970	410	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	610	410	ug/kg	SW846 8270C
Naphthalene	610	410	ug/kg	SW846 8270C
Benzo(a)anthracene	1300	410	ug/kg	SW846 8270C
Percent Solids	79.9	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5B080210

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B080210

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G31FJ	001	S-020705-PP-025	02/07/05	10:35
G31F3	002	S-020705-PP-027	02/07/05	10:15
G31F9	003	S-020705-PP-188	02/07/05	10:05
G31GK	004	S-020705-PP-189	02/07/05	10:08
G31GX	005	S-020705-PP-190	02/07/05	10:12

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-025

TCLP GC/MS Volatiles

Lot-Sample #...: A5B080210-001    Work Order #...: G31FJ1AE    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:35    Date Received...: 02/08/05  
 Leach Date.....: 02/10/05    Prep Date.....: 02/14/05    Analysis Date...: 02/14/05  
 Leach Batch #..: P504115    Prep Batch #...: 5046152  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	100	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-025

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B080210-001    Work Order #...: G31FJ1AF    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:35    Date Received..: 02/08/05  
 Leach Date.....: 02/09/05    Prep Date.....: 02/10/05    Analysis Date..: 02/11/05  
 Leach Batch #..: P504011    Prep Batch #...: 5041091  
 Dilution Factor: 20  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	1.0	mg/L
<b>m-Cresol &amp; p-Cresol</b>	<b>2.6</b>	<b>2.0</b>	<b>mg/L</b>
1,4-Dichlorobenzene	ND	1.0	mg/L
2,4-Dinitrotoluene	ND	1.0	mg/L
Hexachlorobenzene	ND	1.0	mg/L
Hexachlorobutadiene	ND	1.0	mg/L
Hexachloroethane	ND	1.0	mg/L
Nitrobenzene	ND	1.0	mg/L
Pentachlorophenol	ND	2.0	mg/L
Pyridine	ND	2.0	mg/L
2,4,5-Trichloro-phenol	ND	5.0	mg/L
2,4,6-Trichloro-phenol	ND	1.0	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	84 DIL	(32 - 112)
2-Fluorobiphenyl	78 DIL	(30 - 110)
Terphenyl-d14	82 DIL	(10 - 144)
Phenol-d5	79 DIL	(10 - 113)
2-Fluorophenol	73 DIL	(13 - 110)
2,4,6-Tribromophenol	69 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-025

TCLP Metals

Lot-Sample #...: A5B080210-001

Matrix.....: SO

Date Sampled...: 02/07/05 10:35 Date Received...: 02/08/05

Leach Date.....: 02/09/05 Leach Batch #...: P504011

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5042028						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/11/05	G31FJ1AD
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-027

TCLP GC/MS Volatiles

Lot-Sample #...: A5B080210-002    Work Order #...: G31F31AE    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:15    Date Received...: 02/08/05  
 Leach Date.....: 02/10/05    Prep Date.....: 02/14/05    Analysis Date...: 02/14/05  
 Leach Batch #..: P504115    Prep Batch #...: 5046152  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	101	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-027

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B080210-002    Work Order #...: G31F31AF    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:15    Date Received..: 02/08/05  
 Leach Date.....: 02/09/05    Prep Date.....: 02/10/05    Analysis Date...: 02/11/05  
 Leach Batch #..: P504011    Prep Batch #...: 5041091  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72	( 32 - 112 )
2-Fluorobiphenyl	62	( 30 - 110 )
Terphenyl-d14	74	( 10 - 144 )
Phenol-d5	59	( 10 - 113 )
2-Fluorophenol	60	( 13 - 110 )
2,4,6-Tribromophenol	54	( 21 - 122 )

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-027

TCLP Metals

Lot-Sample #...: A5B080210-002

Matrix.....: SO

Date Sampled...: 02/07/05 10:15 Date Received...: 02/08/05

Leach Date.....: 02/09/05 Leach Batch #...: P504011

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5042028						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/11/05	G31F31AD
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-188

GC/MS Semivolatiles

Lot-Sample #...: A5B080210-003    Work Order #...: G31F91AC    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:05    Date Received...: 02/08/05  
 Prep Date.....: 02/08/05    Analysis Date...: 02/10/05  
 Prep Batch #...: 5039387  
 Dilution Factor: 1  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>410</b>	<b>390</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	ND	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	71	(42 - 110)
2-Fluorobiphenyl	66	(43 - 110)
Terphenyl-d14	72	(37 - 137)
Phenol-d5	74	(25 - 115)
2-Fluorophenol	74	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-188

TOTAL Metals

Lot-Sample #...: A5B080210-003

Matrix.....: SO

Date Sampled...: 02/07/05 10:05 Date Received...: 02/08/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5041049

Arsenic	2.4	1.2	mg/kg	SW846 6010B	02/10/05	G31F91AA
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-188

General Chemistry

Lot-Sample #...: A5B080210-003    Work Order #...: G31F9    Matrix.....: SO  
Date Sampled...: 02/07/05 10:05    Date Received..: 02/08/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD	02/09-02/10/05	5040326

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-189

GC/MS Semivolatiles

Lot-Sample #...: A5B080210-004    Work Order #...: G31GK1AC    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:08    Date Received...: 02/08/05  
 Prep Date.....: 02/08/05    Analysis Date...: 02/10/05  
 Prep Batch #...: 5039387  
 Dilution Factor: 2.5  
 % Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	3200	940	ug/kg
Benzo(a)pyrene	2400	940	ug/kg
Dibenz(a,h)anthracene	ND	940	ug/kg
Dibenzofuran	1200	940	ug/kg
Indeno(1,2,3-cd)pyrene	1100	940	ug/kg
4-Methylphenol	ND	940	ug/kg
Naphthalene	1600	940	ug/kg
Benzo(a)anthracene	3200	940	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	60 DIL	(37 - 137)
Phenol-d5	60 DIL	(25 - 115)
2-Fluorophenol	64 DIL	(11 - 116)
2,4,6-Tribromophenol	25 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-189

TOTAL Metals

Lot-Sample #...: A5B080210-004

Matrix.....: SO

Date Sampled...: 02/07/05 10:08 Date Received...: 02/08/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5041049

Arsenic	6.1	1.1	mg/kg	SW846 6010B	02/10/05	G31GK1AA
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-189

General Chemistry

Lot-Sample #...: A5B080210-004    Work Order #...: G31GK    Matrix.....: SO  
Date Sampled...: 02/07/05 10:08    Date Received..: 02/08/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD	02/09-02/10/05	5040326

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-190

GC/MS Semivolatiles

Lot-Sample #...: A5B080210-005    Work Order #...: G31GX1AC    Matrix.....: SO  
 Date Sampled...: 02/07/05 10:12    Date Received...: 02/08/05  
 Prep Date.....: 02/08/05    Analysis Date...: 02/10/05  
 Prep Batch #...: 5039387  
 Dilution Factor: 1  
 % Moisture.....: 20    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	1500	410	ug/kg
Benzo(a)pyrene	970	410	ug/kg
Dibenz(a,h)anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	610	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	610	410	ug/kg
Benzo(a)anthracene	1300	410	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	64	(42 - 110)
2-Fluorobiphenyl	59	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	71	(25 - 115)
2-Fluorophenol	70	(11 - 116)
2,4,6-Tribromophenol	69	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-190

TOTAL Metals

Lot-Sample #...: A5B080210-005

Matrix.....: SO

Date Sampled...: 02/07/05 10:12 Date Received...: 02/08/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5041049

Arsenic	17.8	1.3	mg/kg	SW846 6010B	02/10/05	G31GX1AA
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-020705-PP-190

General Chemistry

Lot-Sample #...: A5B080210-005    Work Order #...: G31GX    Matrix.....: SO  
Date Sampled...: 02/07/05 10:12    Date Received..: 02/08/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.9	10.0	%	MCAWW 160.3 MOD	02/09-02/10/05	5040326

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B080210      Work Order #...: G366L1AA      Matrix.....: SOLID  
MB Lot-Sample #: A5B100000-348  
Leach Date.....: 02/10/05      Prep Date.....: 02/14/05      Analysis Date..: 02/14/05  
Leach Batch #..: P504115      Prep Batch #...: 5046152  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	99	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B080210  
MB Lot-Sample #: A5B080000-387

Work Order #...: G31M41AA

Matrix.....: SOLID

Prep Date.....: 02/08/05

Analysis Date..: 02/10/05

Prep Batch #...: 5039387

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	77	( 42 - 110)
2-Fluorobiphenyl	66	( 43 - 110)
Terphenyl-d14	78	( 37 - 137)
Phenol-d5	75	( 25 - 115)
2-Fluorophenol	78	( 11 - 116)
2,4,6-Tribromophenol	56	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B080210  
 MB Lot-Sample #: A5B100000-091  
 Leach Date.....: 02/09/05  
 Leach Batch #...: P504011  
 Dilution Factor: 1

Work Order #...: G35KQ1AA  
 Prep Date.....: 02/10/05  
 Prep Batch #...: 5041091

Matrix.....: SOLID  
 Analysis Date...: 02/11/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	63	( 32 - 112)
2-Fluorobiphenyl	55	( 30 - 110)
Terphenyl-d14	76	( 10 - 144)
Phenol-d5	52	( 10 - 113)
2-Fluorophenol	54	( 13 - 110)
2,4,6-Tribromophenol	67	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B100000-049		<b>Prep Batch #...</b> : 5041049				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/10/05	G35JF1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5B090000-275	Prep Batch #...:	5042028			
Leach Date.....:	02/09/05	Leach Batch #...:	P504011			
Arsenic	ND	0.50	mg/L	SW846 6010B	02/11/05	G33TL1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B110000-028		<b>Prep Batch #...</b> : 5042028				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/11/05	G38EF1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G33501AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5B090000-326 02/09-02/10/05	5040326
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B080210      Work Order #...: G4FAD1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B150000-152      G4FAD1AC-LCSD  
 Prep Date.....: 02/14/05      Analysis Date...: 02/14/05  
 Prep Batch #...: 5046152  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>104</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	101	(76 - 118)	3.0	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	<b>102</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	99	(76 - 113)	2.8	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	<b>108</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	106	(67 - 128)	2.4	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	<b>104</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	101	(76 - 119)	2.9	(0-30)	SW846 8260B
<b>Toluene</b>	<b>97</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	95	(72 - 117)	2.4	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	104	(86 - 124)
	99	(86 - 124)
1,2-Dichloroethane-d4	97	(80 - 122)
	94	(80 - 122)
Toluene-d8	101	(90 - 122)
	98	(90 - 122)
4-Bromofluorobenzene	105	(84 - 125)
	102	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B080210      Work Order #...: G31M41AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B080000-387      G31M41AD-LCSD  
 Prep Date.....: 02/08/05      Analysis Date...: 02/10/05  
 Prep Batch #...: 5039387  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	71	(45 - 110)			SW846 8270C
	75	(45 - 110)	5.5	(0-54)	SW846 8270C
Acenaphthene	71	(44 - 110)			SW846 8270C
	75	(44 - 110)	6.1	(0-44)	SW846 8270C
2,4-Dinitrotoluene	83	(48 - 111)			SW846 8270C
	83	(48 - 111)	0.020	(0-45)	SW846 8270C
Pyrene	77	(42 - 122)			SW846 8270C
	79	(42 - 122)	1.6	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	77	(38 - 110)			SW846 8270C
	87	(38 - 110)	13	(0-50)	SW846 8270C
1,4-Dichlorobenzene	85	(38 - 110)			SW846 8270C
	85	(38 - 110)	0.49	(0-59)	SW846 8270C
Pentachlorophenol	43	(10 - 123)			SW846 8270C
	35	(10 - 123)	21	(0-87)	SW846 8270C
Phenol	69	(35 - 110)			SW846 8270C
	78	(35 - 110)	12	(0-50)	SW846 8270C
2-Chlorophenol	70	(43 - 110)			SW846 8270C
	79	(43 - 110)	13	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	74	(43 - 110)			SW846 8270C
	76	(43 - 110)	2.3	(0-55)	SW846 8270C
4-Nitrophenol	58	(22 - 128)			SW846 8270C
	60	(22 - 128)	2.3	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77	(42 - 110)
	82	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
	73	(43 - 110)
Terphenyl-d14	78	(37 - 137)
	81	(37 - 137)
Phenol-d5	72	(25 - 115)
	81	(25 - 115)
2-Fluorophenol	73	(11 - 116)
	80	(11 - 116)
2,4,6-Tribromophenol	74	(35 - 116)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B080210      Work Order #...: G35KQ1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B100000-091      G35KQ1AD-LCSD  
 Prep Date.....: 02/10/05      Analysis Date...: 02/11/05  
 Prep Batch #...: 5041091  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	80	(33 - 115)			SW846 8270C
	77	(33 - 115)	3.5	(0-31)	SW846 8270C
m-Cresol & p-Cresol	71	(46 - 109)			SW846 8270C
	70	(46 - 109)	1.0	(0-32)	SW846 8270C
1,4-Dichlorobenzene	71	(28 - 110)			SW846 8270C
	74	(28 - 110)	5.0	(0-36)	SW846 8270C
2,4-Dinitrotoluene	84	(47 - 131)			SW846 8270C
	82	(47 - 131)	3.2	(0-32)	SW846 8270C
Hexachlorobenzene	74	(57 - 128)			SW846 8270C
	77	(57 - 128)	3.6	(0-22)	SW846 8270C
Hexachlorobutadiene	57	(36 - 116)			SW846 8270C
	63	(36 - 116)	8.9	(0-32)	SW846 8270C
Hexachloroethane	63	(30 - 110)			SW846 8270C
	62	(30 - 110)	0.72	(0-33)	SW846 8270C
Nitrobenzene	73	(45 - 130)			SW846 8270C
	74	(45 - 130)	2.0	(0-50)	SW846 8270C
Pentachlorophenol	70	(10 - 140)			SW846 8270C
	74	(10 - 140)	6.1	(0-56)	SW846 8270C
Pyridine	58	(10 - 148)			SW846 8270C
	59	(10 - 148)	1.7	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	75	(41 - 125)			SW846 8270C
	72	(41 - 125)	4.0	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	68	(46 - 135)			SW846 8270C
	70	(46 - 135)	2.7	(0-27)	SW846 8270C
Cresols (total)	74	(46 - 109)			SW846 8270C
	72	(46 - 109)	1.9	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	74	(32 - 112)
	74	(32 - 112)
2-Fluorobiphenyl	64	(30 - 110)
	64	(30 - 110)
Terphenyl-d14	78	(10 - 144)
	79	(10 - 144)
Phenol-d5	60	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B080210      Work Order #...: G35KQ1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B100000-091      G35KQ1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	63	(10 - 113)
2-Fluorophenol	62	(13 - 110)
	66	(13 - 110)
2,4,6-Tribromophenol	84	(21 - 122)
	82	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B100000-049	Prep Batch #...:	5041049		
Arsenic	88	(80 - 120)	SW846 6010B	02/10/05	G35JF1AE
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B110000-028	Prep Batch #...:	5042028		
Arsenic	95	(50 - 150)	SW846 6010B	02/11/05	G38EF1AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B080210      Work Order #...: G3WT11AC-MS      Matrix.....: SOLID  
 MS Lot-Sample #: G5B040373-004      G3WT11AD-MSD  
 Date Sampled...: 02/01/05 17:30      Date Received...: 02/04/05  
 Leach Date.....: 02/10/05      Prep Date.....: 02/14/05      Analysis Date...: 02/14/05  
 Leach Batch #...: P504115      Prep Batch #...: 5046152  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	102	(76 - 117)			SW846 8260B
	100	(76 - 117)	1.9	(0-30)	SW846 8260B
Chlorobenzene	99	(72 - 114)			SW846 8260B
	98	(72 - 114)	1.4	(0-30)	SW846 8260B
1,1-Dichloroethylene	108	(67 - 129)			SW846 8260B
	104	(67 - 129)	3.4	(0-30)	SW846 8260B
Trichloroethylene	101	(72 - 121)			SW846 8260B
	98	(72 - 121)	2.8	(0-30)	SW846 8260B
Toluene	96	(67 - 113)			SW846 8260B
	93	(67 - 113)	3.0	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	101	(86 - 125)
	102	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
	95	(80 - 122)
Toluene-d8	100	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)
	103	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B080210

Matrix.....: SOLID

Date Sampled...: 01/19/05

Date Received...: 02/05/05

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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MS Lot-Sample #: A5B050110-001 Prep Batch #...: 5041049

% Moisture.....: 3.2

Arsenic	81	(75 - 125)			SW846 6010B	02/10/05	G3VNM1AF
	81	(75 - 125)	0.02	(0-20)	SW846 6010B	02/10/05	G3VNM1AG

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B080210

Matrix.....: SO

Date Sampled...: 02/07/05 10:35 Date Received...: 02/08/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B080210-001 Prep Batch #...: 5042028

Leach Date.....: 02/09/05 Leach Batch #...: P504011

Arsenic	101	(50 - 150)			SW846 6010B	02/11/05	G31FJ1AG
	101	(50 - 150)	0.23	(0-20)	SW846 6010B	02/11/05	G31FJ1AH

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B080210

Work Order #...: G30FT-SMP  
G30FT-DUP

Matrix.....: SOLID

Date Sampled...: 02/07/05 11:11 Date Received...: 02/08/05

% Moisture.....: 26

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	74.3	78.0	%	4.8	(0-20)	MCAWW 160.3 MOD	02/09-02/10/05	5040326
							SD Lot-Sample #: A5B080102-001	
Dilution Factor: 1								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B080210

Work Order #...: G30WC-SMP  
G30WC-DUP

Matrix.....: SOLID

Date Sampled...: 02/07/05 12:30 Date Received...: 02/08/05

% Moisture.....: 4.5

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids						SD Lot-Sample #: A5B080145-001		
	95.5	95.8	%	0.36	(0-20)	MCAWW 160.3 MOD	02/09-02/10/05	5040326

Dilution Factor: 1



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan MGP Coker Site

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Prateesh Pathak*

PARAMETERS:

TCLP  
VOCs  
TCLP SVOCs  
Total Arsenic  
Total Arsenic  
Site Specific SVOCs

REMARKS

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS
	2/7/05	10:35	S-020705-PP-025	Soil	2	2-14
	2/7/05	10:15	S-020705-PP-027	Soil	2	2-15
	2/7/05	10:05	S-020705-PP-188	Soil	2	
	2/7/05	10:08	S-020705-PP-189	Soil	2	
	2/7/05	10:12	S-020705-PP-190	Soil	2	
<b>TOTAL NUMBER OF CONTAINERS</b>					<b>7</b>	<b>2 WEEK TAT</b>

RELINQUISHED BY: *[Signature]*

DATE: 2-7-05  
TIME: 15:00

RECEIVED BY: *[Signature]*

DATE: TIME:

RELINQUISHED BY:

DATE: TIME:

RECEIVED BY:

DATE: TIME:

RELINQUISHED BY:

DATE: TIME:

RECEIVED BY:

DATE: TIME:

METHOD OF SHIPMENT:

FEDEX

AIR BILL No.

8467 5834 7510

White -Fully Executed Copy

Yellow -Receiving Laboratory Copy

Pink -Shipper Copy

Goldenrod -Sampler Copy

SAMPLE TEAM:

P. PATHAK

RECEIVED FOR LABORATORY BY:

*[Signature]*

12189

DATE: 2-8-05 TIME: 9:55

**STL Cooler Receipt Form/Narrative**

Lot Number: 453080210

**North Canton Facility**

Client: CRA  
Cooler Received on: 2-8-05

Project: Waukegan  
Opened on: 2-8-05

Quote#: 748891  
by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.1 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials

SOP: NC-SC-0005, Sample Receiving  
N:\QAQC\NARRATIVE\STL\Cooler Receipt STL\COOLER\_STL\_Rev45 112204.doc



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

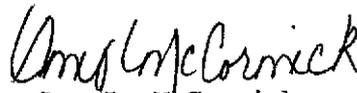
WAUKEGAN MGP COKE SITE

Lot #: A5B110172

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

February 23, 2005

## **CASE NARRATIVE**

A5B110172

The following report contains the analytical results for three solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 11, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 22, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.8°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Samples S-021005-PP-029, S-021005-PP-031, and S-021005-PP-033 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

Sample S-021005-PP-029 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

Samples S-021005-PP-031 and S-021005-PP-033 had elevated reporting limits due to matrix interferences.

Due to a laboratory accident, the laboratory control sample duplicate associated with batch 5049326 was lost during concentration. The laboratory control sample and method blank met acceptance criteria; therefore, corrective action was not initiated and the results were accepted.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



Y:\Barb\STL headers\Qc846-Narrative\_060204.doc, Revised06/02/04 DJL

# EXECUTIVE SUMMARY - Detection Highlights

A5B110172

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL</u> <u>METHOD</u>
NO DETECTABLE PARAMETERS				

# ANALYTICAL METHODS SUMMARY

A5B110172

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B110172

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G3889	001	S-021005-PP-029	02/10/05	14:50
G389F	002	S-021005-PP-031	02/10/05	15:05
G389G	003	S-021005-PP-033	02/10/05	15:20

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-029

TCLP GC/MS Volatiles

Lot-Sample #...: A5B110172-001    Work Order #...: G38891AA    Matrix.....: SO  
 Date Sampled...: 02/10/05 14:50    Date Received...: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/17/05    Analysis Date...: 02/17/05  
 Leach Batch #..: P504505    Prep Batch #...: 5049164  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	105	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-029

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B110172-001    Work Order #...: G38892AD    Matrix.....: SO  
 Date Sampled...: 02/10/05 14:50    Date Received..: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/18/05    Analysis Date...: 02/21/05  
 Leach Batch #..: P504502    Prep Batch #...: 5049326  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66	(32 - 112)
2-Fluorobiphenyl	66	(30 - 110)
Terphenyl-d14	79	(10 - 144)
Phenol-d5	14	(10 - 113)
2-Fluorophenol	14	(13 - 110)
2,4,6-Tribromophenol	16 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-029

TCLP Metals

Lot-Sample #...: A5B110172-001

Matrix.....: SO

Date Sampled...: 02/10/05 14:50 Date Received...: 02/11/05

Leach Date.....: 02/14/05 Leach Batch #...: P504601

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5047019						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/16/05	G38891AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-031

TCLP GC/MS Volatiles

Lot-Sample #...: A5B110172-002    Work Order #...: G389F1AA    Matrix.....: SO  
 Date Sampled...: 02/10/05 15:05    Date Received...: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/17/05    Analysis Date...: 02/18/05  
 Leach Batch #..: P504505    Prep Batch #...: 5049164  
 Dilution Factor: 10  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.25	mg/L
Carbon tetrachloride	ND	0.25	mg/L
Chlorobenzene	ND	0.25	mg/L
Chloroform	ND	0.25	mg/L
1,2-Dichloroethane	ND	0.25	mg/L
1,1-Dichloroethylene	ND	0.70	mg/L
Methyl ethyl ketone	ND	0.50	mg/L
Tetrachloroethylene	ND	0.70	mg/L
Trichloroethylene	ND	0.50	mg/L
Vinyl chloride	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	97	(90 - 122)
4-Bromofluorobenzene	90	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-031

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B110172-002    Work Order #...: G389F2AD    Matrix.....: SO  
 Date Sampled...: 02/10/05 15:05    Date Received...: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/18/05    Analysis Date...: 02/21/05  
 Leach Batch #..: P504502    Prep Batch #...: 5049326  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.25	mg/L
m-Cresol & p-Cresol	ND	0.50	mg/L
1,4-Dichlorobenzene	ND	0.25	mg/L
2,4-Dinitrotoluene	ND	0.25	mg/L
Hexachlorobenzene	ND	0.25	mg/L
Hexachlorobutadiene	ND	0.25	mg/L
Hexachloroethane	ND	0.25	mg/L
Nitrobenzene	ND	0.25	mg/L
Pentachlorophenol	ND	0.50	mg/L
Pyridine	ND	0.50	mg/L
2,4,5-Trichloro-phenol	ND	1.2	mg/L
2,4,6-Trichloro-phenol	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	73 DIL	(32 - 112)
2-Fluorobiphenyl	80 DIL	(30 - 110)
Terphenyl-d14	88 DIL	(10 - 144)
Phenol-d5	0.0 DIL, *	(10 - 113)
2-Fluorophenol	5.7 DIL, *	(13 - 110)
2,4,6-Tribromophenol	7.7 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-031

TCLP Metals

Lot-Sample #...: A5B110172-002

Matrix.....: SO

Date Sampled...: 02/10/05 15:05 Date Received...: 02/11/05

Leach Date.....: 02/14/05 Leach Batch #...: P504601

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5047019						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/16/05	G389F1AE
		Dilution Factor: 1				

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-033

TCLP GC/MS Volatiles

Lot-Sample #...: A5B110172-003    Work Order #...: G389G1AA    Matrix.....: SO  
 Date Sampled...: 02/10/05 15:20    Date Received...: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/17/05    Analysis Date...: 02/17/05  
 Leach Batch #...: P504505    Prep Batch #...: 5049164  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.12	mg/L
Carbon tetrachloride	ND	0.12	mg/L
Chlorobenzene	ND	0.12	mg/L
Chloroform	ND	0.12	mg/L
1,2-Dichloroethane	ND	0.12	mg/L
1,1-Dichloroethylene	ND	0.35	mg/L
Methyl ethyl ketone	ND	0.25	mg/L
Tetrachloroethylene	ND	0.35	mg/L
Trichloroethylene	ND	0.25	mg/L
Vinyl chloride	ND	0.12	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(86 - 125)
1,2-Dichloroethane-d4	91	(80 - 122)
Toluene-d8	99	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-033

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B110172-003    Work Order #...: G389G2AD    Matrix.....: SO  
 Date Sampled...: 02/10/05 15:20    Date Received...: 02/11/05  
 Leach Date.....: 02/14/05    Prep Date.....: 02/18/05    Analysis Date...: 02/21/05  
 Leach Batch #...: P504502    Prep Batch #...: 5049326  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.25	mg/L
m-Cresol & p-Cresol	ND	0.50	mg/L
1,4-Dichlorobenzene	ND	0.25	mg/L
2,4-Dinitrotoluene	ND	0.25	mg/L
Hexachlorobenzene	ND	0.25	mg/L
Hexachlorobutadiene	ND	0.25	mg/L
Hexachloroethane	ND	0.25	mg/L
Nitrobenzene	ND	0.25	mg/L
Pentachlorophenol	ND	0.50	mg/L
Pyridine	ND	0.50	mg/L
2,4,5-Trichloro-phenol	ND	1.2	mg/L
2,4,6-Trichloro-phenol	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72 DIL	( 32 - 112 )
2-Fluorobiphenyl	76 DIL	( 30 - 110 )
Terphenyl-d14	80 DIL	( 10 - 144 )
Phenol-d5	17 DIL	( 10 - 113 )
2-Fluorophenol	16 DIL	( 13 - 110 )
2,4,6-Tribromophenol	20 DIL, *	( 21 - 122 )

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021005-PP-033

TCLP Metals

Lot-Sample #...: A5B110172-003

Matrix.....: SO

Date Sampled...: 02/10/05 15:20 Date Received...: 02/11/05

Leach Date.....: 02/14/05 Leach Batch #...: P504601

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5047019						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/16/05	G389G1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B110172      Work Order #...: G4DV31AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B140000-272  
 Leach Date.....: 02/14/05      Prep Date.....: 02/17/05      Analysis Date..: 02/17/05  
 Leach Batch #..: P504505      Prep Batch #...: 5049164  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	105	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B110172      Work Order #...: G4PHM1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B180000-326  
 Leach Date.....: 02/14/05      Prep Date.....: 02/18/05      Analysis Date...: 02/21/05  
 Leach Batch #..: P504502      Prep Batch #...: 5049326  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	59	( 32 - 112)
2-Fluorobiphenyl	63	( 30 - 110)
Terphenyl-d14	78	( 10 - 144)
Phenol-d5	49	( 10 - 113)
2-Fluorophenol	58	( 13 - 110)
2,4,6-Tribromophenol	73	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B110172

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5B150000-039	Prep Batch #...:	5047019			
Leach Date.....:	02/14/05	Leach Batch #...:	P504601			
Arsenic	ND	0.50	mg/L	SW846 6010B	02/16/05	G4E0K1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B110172

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B160000-019		<b>Prep Batch #...</b> : 5047019				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/16/05	G4HCF1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B110172      Work Order #...: G4NXA1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B180000-164      G4NXA1AC-LCSD  
 Prep Date.....: 02/17/05      Analysis Date...: 02/17/05  
 Prep Batch #...: 5049164  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
Benzene	97	(76 - 118)			SW846 8260B
	97	(76 - 118)	0.12	(0-30)	SW846 8260B
Chlorobenzene	97	(76 - 113)			SW846 8260B
	93	(76 - 113)	4.4	(0-30)	SW846 8260B
1,1-Dichloroethylene	96	(67 - 128)			SW846 8260B
	97	(67 - 128)	0.41	(0-30)	SW846 8260B
Trichloroethylene	92	(76 - 119)			SW846 8260B
	91	(76 - 119)	1.3	(0-20)	SW846 8260B
Toluene	93	(72 - 117)			SW846 8260B
	91	(72 - 117)	2.1	(0-30)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	99	(86 - 124)
	100	(86 - 124)
1,2-Dichloroethane-d4	95	(80 - 122)
	96	(80 - 122)
Toluene-d8	102	(90 - 122)
	104	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)
	103	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B110172      Work Order #...: G4PHM1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B180000-326  
 Prep Date.....: 02/18/05      Analysis Date...: 02/21/05  
 Prep Batch #...: 5049326  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
o-Cresol	67	(33 - 115)	SW846 8270C
m-Cresol & p-Cresol	72	(46 - 109)	SW846 8270C
1,4-Dichlorobenzene	78	(28 - 110)	SW846 8270C
2,4-Dinitrotoluene	74	(47 - 131)	SW846 8270C
Hexachlorobenzene	72	(57 - 128)	SW846 8270C
Hexachlorobutadiene	67	(36 - 116)	SW846 8270C
Hexachloroethane	69	(30 - 110)	SW846 8270C
Nitrobenzene	71	(45 - 130)	SW846 8270C
Pentachlorophenol	82	(10 - 140)	SW846 8270C
Pyridine	72	(10 - 148)	SW846 8270C
2,4,5-Trichloro-phenol	72	(41 - 125)	SW846 8270C
2,4,6-Trichloro-phenol	73	(46 - 135)	SW846 8270C
Cresols (total)	71	(46 - 109)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	70	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
Terphenyl-d14	76	(10 - 144)
Phenol-d5	61	(10 - 113)
2-Fluorophenol	71	(13 - 110)
2,4,6-Tribromophenol	78	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B110172

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B160000-019	Prep Batch #...:	5047019		
Arsenic	99	(50 - 150)	SW846 6010B	02/16/05	G4HCF1AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B110172      Work Order #...: G388H1DE-MS      Matrix.....: WASTE  
 MS Lot-Sample #: A5B110167-001      G388H1DF-MSD  
 Date Sampled...: 02/10/05 12:20      Date Received...: 02/11/05  
 Leach Date.....: 02/14/05      Prep Date.....: 02/17/05      Analysis Date...: 02/17/05  
 Leach Batch #...: P504505      Prep Batch #...: 5049164  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	91	(76 - 117)			SW846 8260B
	94	(76 - 117)	3.5	(0-30)	SW846 8260B
Chlorobenzene	82	(72 - 114)			SW846 8260B
	89	(72 - 114)	8.9	(0-30)	SW846 8260B
1,1-Dichloroethylene	103	(67 - 129)			SW846 8260B
	98	(67 - 129)	5.1	(0-30)	SW846 8260B
Trichloroethylene	84	(72 - 121)			SW846 8260B
	88	(72 - 121)	4.6	(0-30)	SW846 8260B
Toluene	82	(67 - 113)			SW846 8260B
	88	(67 - 113)	6.5	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
	96	(86 - 125)
1,2-Dichloroethane-d4	90	(80 - 122)
	91	(80 - 122)
Toluene-d8	103	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)
	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B110172

Matrix.....: SO

Date Sampled...: 02/10/05 14:50 Date Received...: 02/11/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B110172-001 Prep Batch #...: 5047019

Leach Date.....: 02/14/05 Leach Batch #...: P504601

Arsenic	103	(50 - 150)			SW846 6010B	02/16/05	G38891AG
	100	(50 - 150)	2.5	(0-20)	SW846 6010B	02/16/05	G38891AH

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**STL Cooler Receipt Form/Narrative**

Lot Number: ASB11072

**North Canton Facility**

Client: CRA Project: Wastewater Quote#: \_\_\_\_\_  
 Cooler Received on: 2-11-05 Opened on: 2-11-05 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# K423 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.8 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials

SOP: NC-SC-0005, Sample Receiving  
 N:\QAQC\WARRANTY\STL\Cooler Receipt STL\COOLER\_STL\_Rev45 112204.doc



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

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www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

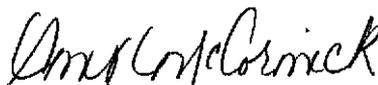
WAUKEGAN MGP COKE SITE

Lot #: A5B140124

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

February 25, 2005

# CASE NARRATIVE

A5B140124

The following report contains the analytical results for sixteen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 14, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 24, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.8°C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

The matrix spike/matrix spike duplicate(s) for S-021105-PP-196 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

Samples S-021105-PP-199, S-021105-PP-200, and S-021105-PP-203 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

Two analyses were used to report sample S-021105-PP-206 due to high analyte concentrations.

Sample S-021105-PP-204 had elevated reporting limits due to matrix interferences.

### **METALS**

The matrix spike/matrix spike duplicate(s) for S-021105-PP-196 had RPD's outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5B140124

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021105-PP-191 02/11/05 10:42 001</b>				
Arsenic	166	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	450	390	ug/kg	SW846 8270C
Benzo(a)anthracene	410	390	ug/kg	SW846 8270C
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-192 02/11/05 10:46 002</b>				
Arsenic	56.8	1.4	mg/kg	SW846 6010B
Naphthalene	760000	190000	ug/kg	SW846 8270C
Percent Solids	69.4	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-193 02/11/05 10:48 003</b>				
Arsenic	4.3	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2200	730	ug/kg	SW846 8270C
Benzo(a)pyrene	1400	730	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	790	730	ug/kg	SW846 8270C
Benzo(a)anthracene	1600	730	ug/kg	SW846 8270C
Percent Solids	90.9	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-194 02/11/05 10:51 004</b>				
Arsenic	23.4	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	5700	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	4100	1600	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2300	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	5100	1600	ug/kg	SW846 8270C
Percent Solids	81.8	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-195 02/11/05 10:52 005</b>				
Arsenic	23.4	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	13000	4400	ug/kg	SW846 8270C
Benzo(a)pyrene	9600	4400	ug/kg	SW846 8270C
Dibenzofuran	5600	4400	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	5400	4400	ug/kg	SW846 8270C
Naphthalene	20000	4400	ug/kg	SW846 8270C
Benzo(a)anthracene	12000	4400	ug/kg	SW846 8270C
Percent Solids	74.7	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B140124

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021105-PP-196 02/11/05 11:00 006</b>				
Arsenic	31.4	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	9200	2700	ug/kg	SW846 8270C
Benzo(a)pyrene	5500	2700	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	3600	2700	ug/kg	SW846 8270C
Naphthalene	4700	2700	ug/kg	SW846 8270C
Benzo(a)anthracene	7200	2700	ug/kg	SW846 8270C
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-197 02/11/05 11:03 007</b>				
Arsenic	14.4	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2500	790	ug/kg	SW846 8270C
Benzo(a)pyrene	1300	790	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	940	790	ug/kg	SW846 8270C
Benzo(a)anthracene	2000	790	ug/kg	SW846 8270C
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-198 02/11/05 11:06 008</b>				
Arsenic	64.2	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	150000	110000	ug/kg	SW846 8270C
Naphthalene	380000	110000	ug/kg	SW846 8270C
Benzo(a)anthracene	160000	110000	ug/kg	SW846 8270C
Percent Solids	77.6	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-199 02/11/05 11:09 009</b>				
Arsenic	52.2	1.6	mg/kg	SW846 6010B
Naphthalene	580	540	ug/kg	SW846 8270C
Percent Solids	60.8	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-200 02/11/05 11:11 010</b>				
Arsenic	39.5	1.4	mg/kg	SW846 6010B
Percent Solids	71.5	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-201 02/11/05 11:14 011</b>				
Arsenic	60.1	1.1	mg/kg	SW846 6010B
Percent Solids	89.9	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B140124

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021105-PP-202 02/11/05 11:16 012</b>				
Arsenic	26.9	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	380	360	ug/kg	SW846 8270C
Benzo(a)anthracene	370	360	ug/kg	SW846 8270C
Percent Solids	91.8	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-203 02/11/05 11:20 013</b>				
Arsenic	11.6	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	760	430	ug/kg	SW846 8270C
Benzo(a)pyrene	470	430	ug/kg	SW846 8270C
Benzo(a)anthracene	510	430	ug/kg	SW846 8270C
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-204 02/11/05 11:24 014</b>				
Arsenic	11.5	1.1	mg/kg	SW846 6010B
Percent Solids	92.7	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-205 02/11/05 11:28 015</b>				
Arsenic	8.0	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1800	870	ug/kg	SW846 8270C
Benzo(a)pyrene	1000	870	ug/kg	SW846 8270C
Benzo(a)anthracene	1300	870	ug/kg	SW846 8270C
Percent Solids	75.7	10.0	%	MCAWW 160.3 MOD
<b>S-021105-PP-206 02/11/05 11:31 016</b>				
Arsenic	44.8	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	8000	2500	ug/kg	SW846 8270C
Benzo(a)pyrene	6100	2500	ug/kg	SW846 8270C
Dibenzofuran	4300	2500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	3000	2500	ug/kg	SW846 8270C
Naphthalene	15000 E	2500	ug/kg	SW846 8270C
Benzo(a)anthracene	8000	2500	ug/kg	SW846 8270C
Benzo(b)fluoranthene	8300	4800	ug/kg	SW846 8270C
Benzo(a)pyrene	6100	4800	ug/kg	SW846 8270C
Naphthalene	21000	4800	ug/kg	SW846 8270C
Benzo(a)anthracene	7400	4800	ug/kg	SW846 8270C
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5B140124

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B140124

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G4DXV	001	S-021105-PP-191	02/11/05	10:42
G4DX2	002	S-021105-PP-192	02/11/05	10:46
G4DX3	003	S-021105-PP-193	02/11/05	10:48
G4DX4	004	S-021105-PP-194	02/11/05	10:51
G4DX5	005	S-021105-PP-195	02/11/05	10:52
G4DX7	006	S-021105-PP-196	02/11/05	11:00
G4DX8	007	S-021105-PP-197	02/11/05	11:03
G4D0C	008	S-021105-PP-198	02/11/05	11:06
G4D0D	009	S-021105-PP-199	02/11/05	11:09
G4D0E	010	S-021105-PP-200	02/11/05	11:11
G4D0G	011	S-021105-PP-201	02/11/05	11:14
G4D0J	012	S-021105-PP-202	02/11/05	11:16
G4D0K	013	S-021105-PP-203	02/11/05	11:20
G4D0L	014	S-021105-PP-204	02/11/05	11:24
G4D0N	015	S-021105-PP-205	02/11/05	11:28
G4D0Q	016	S-021105-PP-206	02/11/05	11:31
G4D0T	017	W-021105-PP-504	02/11/05	11:45

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-191

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-001    Work Order #...: G4DXV1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 10:42    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>450</b>	<b>390</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
<b>Benzo(a)anthracene</b>	<b>410</b>	<b>390</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	57	(42 - 110)
2-Fluorobiphenyl	51	(43 - 110)
Terphenyl-d14	54	(37 - 137)
Phenol-d5	44	(25 - 115)
2-Fluorophenol	36	(11 - 116)
2,4,6-Tribromophenol	37	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-191

TOTAL Metals

Lot-Sample #...: A5B140124-001

Matrix.....: SO

Date Sampled...: 02/11/05 10:42 Date Received...: 02/14/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	166	1.2	mg/kg	SW846 6010B	02/15/05	G4DXV1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-191

General Chemistry

Lot-Sample #...: A5B140124-001    Work Order #...: G4DXV    Matrix.....: SO  
Date Sampled...: 02/11/05 10:42    Date Received..: 02/14/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-192

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-002    Work Order #...: G4DX21AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 10:46    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/18/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 400  
 % Moisture.....: 31    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	190000	ug/kg
Benzo(a)pyrene	ND	190000	ug/kg
Dibenz(a,h)anthracene	ND	190000	ug/kg
Dibenzofuran	ND	190000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	190000	ug/kg
4-Methylphenol	ND	190000	ug/kg
<b>Naphthalene</b>	<b>760000</b>	<b>190000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	190000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-192

TOTAL Metals

Lot-Sample #...: A5B140124-002

Matrix.....: SO

Date Sampled...: 02/11/05 10:46 Date Received...: 02/14/05

% Moisture.....: 31

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	56.8	1.4	mg/kg	SW846 6010B	02/15/05	G4DX21AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-192

General Chemistry

Lot-Sample #...: A5B140124-002    Work Order #...: G4DX2    Matrix.....: SO  
Date Sampled...: 02/11/05 10:46    Date Received..: 02/14/05  
% Moisture.....: 31

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	69.4	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-193

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-003    Work Order #...: G4DX31AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 10:48    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 2  
 % Moisture.....: 9.1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2200	730	ug/kg
Benzo(a)pyrene	1400	730	ug/kg
Dibenz(a,h)anthracene	ND	730	ug/kg
Dibenzofuran	ND	730	ug/kg
Indeno(1,2,3-cd)pyrene	790	730	ug/kg
4-Methylphenol	ND	730	ug/kg
Naphthalene	ND	730	ug/kg
Benzo(a)anthracene	1600	730	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	81 DIL	(42 - 110)
2-Fluorobiphenyl	75 DIL	(43 - 110)
Terphenyl-d14	80 DIL	(37 - 137)
Phenol-d5	76 DIL	(25 - 115)
2-Fluorophenol	69 DIL	(11 - 116)
2,4,6-Tribromophenol	58 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-193

TOTAL Metals

Lot-Sample #...: A5B140124-003

Matrix.....: SO

Date Sampled...: 02/11/05 10:48 Date Received...: 02/14/05

% Moisture.....: 9.1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	4.3	1.1	mg/kg	SW846 6010B	02/15-02/16/05	G4DX31AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-193

General Chemistry

Lot-Sample #...: A5B140124-003    Work Order #...: G4DX3    Matrix.....: SO  
Date Sampled...: 02/11/05 10:48    Date Received..: 02/14/05  
% Moisture.....: 9.1

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	90.9	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-194

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-004    Work Order #...: G4DX41AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 10:51    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 4  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	5700	1600	ug/kg
Benzo(a)pyrene	4100	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	2300	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	ND	1600	ug/kg
Benzo(a)anthracene	5100	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	69 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-194

TOTAL Metals

Lot-Sample #...: A5B140124-004

Matrix.....: SO

Date Sampled...: 02/11/05 10:51 Date Received...: 02/14/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	23.4	1.2	mg/kg	SW846 6010B	02/15-02/16/05	G4DX41AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-194

General Chemistry

Lot-Sample #...: A5B140124-004    Work Order #...: G4DX4    Matrix.....: SO  
Date Sampled...: 02/11/05 10:51    Date Received..: 02/14/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.8	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-195

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-005    Work Order #...: G4DX51AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 10:52    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 10  
 % Moisture.....: 25    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	13000	4400	ug/kg
Benzo(a)pyrene	9600	4400	ug/kg
Dibenz(a,h)anthracene	ND	4400	ug/kg
Dibenzofuran	5600	4400	ug/kg
Indeno(1,2,3-cd)pyrene	5400	4400	ug/kg
4-Methylphenol	ND	4400	ug/kg
Naphthalene	20000	4400	ug/kg
Benzo(a)anthracene	12000	4400	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80 DIL	(42 - 110)
2-Fluorobiphenyl	76 DIL	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	77 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	64 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-195

TOTAL Metals

Lot-Sample #...: A5B140124-005

Matrix.....: SO

Date Sampled...: 02/11/05 10:52 Date Received...: 02/14/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	23.4	1.3	mg/kg	SW846 6010B	02/15-02/16/05	G4DX51AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-195

General Chemistry

Lot-Sample #...: A5B140124-005    Work Order #...: G4DX5    Matrix.....: SO  
Date Sampled...: 02/11/05 10:52    Date Received..: 02/14/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	74.7	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-196

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-006    Work Order #...: G4DX71AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:00    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 6.66  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	9200	2700	ug/kg
Benzo(a)pyrene	5500	2700	ug/kg
Dibenz(a,h)anthracene	ND	2700	ug/kg
Dibenzofuran	ND	2700	ug/kg
Indeno(1,2,3-cd)pyrene	3600	2700	ug/kg
4-Methylphenol	ND	2700	ug/kg
Naphthalene	4700	2700	ug/kg
Benzo(a)anthracene	7200	2700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	84 DIL	(42 - 110)
2-Fluorobiphenyl	75 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
Phenol-d5	71 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	56 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-196

TOTAL Metals

Lot-Sample #...: A5B140124-006

Matrix.....: SO

Date Sampled...: 02/11/05 11:00 Date Received...: 02/14/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	31.4	1.2	mg/kg	SW846 6010B	02/15-02/16/05	G4DX71AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-196

General Chemistry

Lot-Sample #...: A5B140124-006    Work Order #...: G4DX7    Matrix.....: SO  
Date Sampled...: 02/11/05 11:00    Date Received..: 02/14/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-197

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-007    Work Order #...: G4DX81AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:03    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 2  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2500	790	ug/kg
Benzo(a)pyrene	1300	790	ug/kg
Dibenz(a,h)anthracene	ND	790	ug/kg
Dibenzofuran	ND	790	ug/kg
Indeno(1,2,3-cd)pyrene	940	790	ug/kg
4-Methylphenol	ND	790	ug/kg
Naphthalene	ND	790	ug/kg
Benzo(a)anthracene	2000	790	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	77 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
2-Fluorophenol	68 DIL	(11 - 116)
2,4,6-Tribromophenol	58 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-197

TOTAL Metals

Lot-Sample #...: A5B140124-007

Matrix.....: SO

Date Sampled...: 02/11/05 11:03 Date Received...: 02/14/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	14.4	1.2	mg/kg	SW846 6010B	02/15-02/16/05	G4DX81AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-197

General Chemistry

Lot-Sample #...: A5B140124-007    Work Order #...: G4DX8    Matrix.....: SO  
Date Sampled...: 02/11/05 11:03    Date Received..: 02/14/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-198

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-008    Work Order #...: G4D0C1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:06    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 250  
 % Moisture.....: 22    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>150000</b>	<b>110000</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	110000	ug/kg
Dibenz(a,h)anthracene	ND	110000	ug/kg
Dibenzofuran	ND	110000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	110000	ug/kg
4-Methylphenol	ND	110000	ug/kg
<b>Naphthalene</b>	<b>380000</b>	<b>110000</b>	<b>ug/kg</b>
<b>Benzo(a)anthracene</b>	<b>160000</b>	<b>110000</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-198

TOTAL Metals

Lot-Sample #...: A5B140124-008

Matrix.....: SO

Date Sampled...: 02/11/05 11:06 Date Received...: 02/14/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	64.2	1.3	mg/kg	SW846 6010B	02/15-02/16/05	G4D0C1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-198

General Chemistry

Lot-Sample #...: A5B140124-008    Work Order #...: G4D0C    Matrix.....: SO  
Date Sampled...: 02/11/05 11:06    Date Received..: 02/14/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.6	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-199

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-009    Work Order #...: G4D0D1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:09    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/16/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 1  
 % Moisture.....: 39    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	540	ug/kg
Benzo(a)pyrene	ND	540	ug/kg
Dibenz(a,h)anthracene	ND	540	ug/kg
Dibenzofuran	ND	540	ug/kg
Indeno(1,2,3-cd)pyrene	ND	540	ug/kg
4-Methylphenol	ND	540	ug/kg
<b>Naphthalene</b>	<b>580</b>	<b>540</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	540	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	58	(42 - 110)
2-Fluorobiphenyl	51	(43 - 110)
Terphenyl-d14	70	(37 - 137)
Phenol-d5	38	(25 - 115)
2-Fluorophenol	22	(11 - 116)
2,4,6-Tribromophenol	18 *	(35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-199

TOTAL Metals

Lot-Sample #...: A5B140124-009

Matrix.....: SO

Date Sampled...: 02/11/05 11:09 Date Received...: 02/14/05

% Moisture.....: 39

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	52.2	1.6	mg/kg	SW846 6010B	02/15-02/16/05	G4D0D1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-199

General Chemistry

Lot-Sample #...: A5B140124-009    Work Order #...: G4D0D    Matrix.....: SO  
Date Sampled...: 02/11/05 11:09    Date Received..: 02/14/05  
% Moisture.....: 39

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	60.8	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-200

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-010    Work Order #...: G4D0E2AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:11    Date Received...: 02/14/05  
 Prep Date.....: 02/18/05    Analysis Date...: 02/21/05  
 Prep Batch #...: 5049073  
 Dilution Factor: 1  
 % Moisture.....: 28    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	460	ug/kg
Benzo(a)pyrene	ND	460	ug/kg
Dibenz(a,h)anthracene	ND	460	ug/kg
Dibenzofuran	ND	460	ug/kg
Indeno(1,2,3-cd)pyrene	ND	460	ug/kg
4-Methylphenol	ND	460	ug/kg
Naphthalene	ND	460	ug/kg
Benzo(a)anthracene	ND	460	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	(42 - 110)
2-Fluorobiphenyl	71	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	54	(25 - 115)
2-Fluorophenol	37	(11 - 116)
2,4,6-Tribromophenol	24 *	(35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-200

TOTAL Metals

Lot-Sample #...: A5B140124-010

Matrix.....: SO

Date Sampled...: 02/11/05 11:11 Date Received...: 02/14/05

% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	39.5	1.4	mg/kg	SW846 6010B	02/15-02/16/05	G4D0E1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-200

General Chemistry

Lot-Sample #...: A5B140124-010    Work Order #...: G4D0E    Matrix.....: SO  
Date Sampled...: 02/11/05 11:11    Date Received..: 02/14/05  
% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	71.5	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-201

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-011    Work Order #...: G4D0G1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:14    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/16/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 1  
 % Moisture.....: 10    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Dibenz(a,h)anthracene	ND	370	ug/kg
Dibenzofuran	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
4-Methylphenol	ND	370	ug/kg
Naphthalene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	44	(42 - 110)
2-Fluorobiphenyl	52	(43 - 110)
Terphenyl-d14	80	(37 - 137)
Phenol-d5	48	(25 - 115)
2-Fluorophenol	36	(11 - 116)
2,4,6-Tribromophenol	55	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-201

TOTAL Metals

Lot-Sample #...: A5B140124-011

Matrix.....: SO

Date Sampled...: 02/11/05 11:14 Date Received...: 02/14/05

% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	60.1	1.1	mg/kg	SW846 6010B	02/15-02/16/05	G4D0G1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-201

General Chemistry

Lot-Sample #...: A5B140124-011    Work Order #...: G4D0G    Matrix.....: SO  
Date Sampled...: 02/11/05 11:14    Date Received..: 02/14/05  
% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.9	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-202

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-012    Work Order #...: G4D0J1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:16    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/16/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 1  
 % Moisture.....: 8.2    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>380</b>	<b>360</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	360	ug/kg
Dibenz(a,h)anthracene	ND	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	ND	360	ug/kg
<b>Benzo(a)anthracene</b>	<b>370</b>	<b>360</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	65	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	69	(37 - 137)
Phenol-d5	67	(25 - 115)
2-Fluorophenol	63	(11 - 116)
2,4,6-Tribromophenol	61	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-202

TOTAL Metals

Lot-Sample #...: A5B140124-012

Matrix.....: SO

Date Sampled...: 02/11/05 11:16 Date Received...: 02/14/05

% Moisture.....: 8.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	26.9	1.1	mg/kg	SW846 6010B	02/15-02/16/05	G4D0J1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-202

General Chemistry

Lot-Sample #...: A5B140124-012    Work Order #...: G4D0J    Matrix.....: SO  
Date Sampled...: 02/11/05 11:16    Date Received..: 02/14/05  
% Moisture.....: 8.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.8	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-203

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-013    Work Order #...: G4D0K1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:20    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/22/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 1  
 % Moisture.....: 23    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	760	430	ug/kg
Benzo(a)pyrene	470	430	ug/kg
Dibenz(a,h)anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno(1,2,3-cd)pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo(a)anthracene	510	430	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	52	(42 - 110)
2-Fluorobiphenyl	58	(43 - 110)
Terphenyl-d14	70	(37 - 137)
Phenol-d5	33	(25 - 115)
2-Fluorophenol	20	(11 - 116)
2,4,6-Tribromophenol	10 *	(35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-203

TOTAL Metals

Lot-Sample #...: A5B140124-013

Matrix.....: SO

Date Sampled...: 02/11/05 11:20 Date Received...: 02/14/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	11.6	1.3	mg/kg	SW846 6010B	02/15-02/16/05	G4D0K1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-203

General Chemistry

Lot-Sample #...: A5B140124-013    Work Order #...: G4D0K    Matrix.....: SO  
Date Sampled...: 02/11/05 11:20    Date Received..: 02/14/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-204

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-014    Work Order #...: G4D0L1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:24    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/21/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 10  
 % Moisture.....: 7.3    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	3600	ug/kg
Benzo(a)pyrene	ND	3600	ug/kg
Dibenz(a,h)anthracene	ND	3600	ug/kg
Dibenzofuran	ND	3600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	3600	ug/kg
4-Methylphenol	ND	3600	ug/kg
Naphthalene	ND	3600	ug/kg
Benzo(a)anthracene	ND	3600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	66 DIL	(42 - 110)
2-Fluorobiphenyl	63 DIL	(43 - 110)
Terphenyl-d14	90 DIL	(37 - 137)
Phenol-d5	52 DIL	(25 - 115)
2-Fluorophenol	39 DIL	(11 - 116)
2,4,6-Tribromophenol	35 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-204

TOTAL Metals

Lot-Sample #...: A5B140124-014

Matrix.....: SO

Date Sampled...: 02/11/05 11:24 Date Received...: 02/14/05

% Moisture.....: 7.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	11.5	1.1	mg/kg	SW846 6010B	02/15-02/16/05	G4D0L1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-204

General Chemistry

Lot-Sample #...: A5B140124-014    Work Order #...: G4D0L    Matrix.....: SO  
Date Sampled...: 02/11/05 11:24    Date Received..: 02/14/05  
% Moisture.....: 7.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.7	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-205

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-015    Work Order #...: G4D0N1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:28    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/21/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 2  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	1800	870	ug/kg
Benzo(a)pyrene	1000	870	ug/kg
Dibenz(a,h)anthracene	ND	870	ug/kg
Dibenzofuran	ND	870	ug/kg
Indeno(1,2,3-cd)pyrene	ND	870	ug/kg
4-Methylphenol	ND	870	ug/kg
Naphthalene	ND	870	ug/kg
Benzo(a)anthracene	1300	870	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	57 DIL	(25 - 115)
2-Fluorophenol	46 DIL	(11 - 116)
2,4,6-Tribromophenol	45 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-205

TOTAL Metals

Lot-Sample #...: A5B140124-015

Matrix.....: SO

Date Sampled...: 02/11/05 11:28 Date Received...: 02/14/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	8.0	1.3	mg/kg	SW846 6010B	02/15-02/16/05	G4D0N1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-205

General Chemistry

Lot-Sample #...: A5B140124-015    Work Order #...: G4D0N    Matrix.....: SO  
Date Sampled...: 02/11/05 11:28    Date Received..: 02/14/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	75.7	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-206

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-016    Work Order #...: G4D0Q1AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:31    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/21/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 6.66  
 % Moisture.....: 14    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	8000	2500	ug/kg
Benzo(a)pyrene	6100	2500	ug/kg
Dibenz(a,h)anthracene	ND	2500	ug/kg
Dibenzofuran	4300	2500	ug/kg
Indeno(1,2,3-cd)pyrene	3000	2500	ug/kg
4-Methylphenol	ND	2500	ug/kg
Naphthalene	15000 E	2500	ug/kg
Benzo(a)anthracene	8000	2500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	63 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.  
 E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-206

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-016    Work Order #...: G4D0Q2AD    Matrix.....: SO  
 Date Sampled...: 02/11/05 11:31    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/22/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 12.5  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	8300	4800	ug/kg
Benzo(a)pyrene	6100	4800	ug/kg
Dibenz(a,h)anthracene	ND	4800	ug/kg
Dibenzofuran	ND	4800	ug/kg
Indeno(1,2,3-cd)pyrene	ND	4800	ug/kg
4-Methylphenol	ND	4800	ug/kg
Naphthalene	21000	4800	ug/kg
Benzo(a)anthracene	7400	4800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	68 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	69 DIL	(25 - 115)
2-Fluorophenol	66 DIL	(11 - 116)
2,4,6-Tribromophenol	64 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-206

TOTAL Metals

Lot-Sample #...: A5B140124-016

Matrix.....: SO

Date Sampled...: 02/11/05 11:31 Date Received...: 02/14/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5046021

Arsenic	44.8	1.2	mg/kg	SW846 6010B	02/15-02/16/05	G4D0Q1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021105-PP-206

General Chemistry

Lot-Sample #...: A5B140124-016    Work Order #...: G4D0Q    Matrix.....: SO  
Date Sampled...: 02/11/05 11:31    Date Received..: 02/14/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	02/15-02/16/05	5046364

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-021105-PP-504

GC/MS Semivolatiles

Lot-Sample #...: A5B140124-017    Work Order #...: G4D0T1AC    Matrix.....: WQ  
 Date Sampled...: 02/11/05 11:45    Date Received...: 02/14/05  
 Prep Date.....: 02/15/05    Analysis Date...: 02/18/05  
 Prep Batch #...: 5046352  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	58	( 32 - 112)
2-Fluorobiphenyl	52	( 30 - 110)
Terphenyl-d14	75	( 10 - 144)
Phenol-d5	53	( 10 - 113)
2-Fluorophenol	53	( 13 - 110)
2,4,6-Tribromophenol	55	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-021105-PP-504

TOTAL Metals

Lot-Sample #...: A5B140124-017

Matrix.....: WQ

Date Sampled...: 02/11/05 11:45 Date Received...: 02/14/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5047017						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/16/05	G4D0T1AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124  
MB Lot-Sample #: A5B150000-195

Work Order #...: G4FFG1AA

Matrix.....: SOLID

Prep Date.....: 02/15/05

Analysis Date..: 02/16/05

Prep Batch #...: 5046195

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	68	(42 - 110)
2-Fluorobiphenyl	62	(43 - 110)
Terphenyl-d14	75	(37 - 137)
Phenol-d5	68	(25 - 115)
2-Fluorophenol	67	(11 - 116)
2,4,6-Tribromophenol	61	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124  
MB Lot-Sample #: A5B150000-196

Work Order #...: G4FFP1AA

Matrix.....: SOLID

Prep Date.....: 02/15/05

Analysis Date..: 02/21/05

Prep Batch #...: 5046196

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	57	(42 - 110)
2-Fluorobiphenyl	56	(43 - 110)
Terphenyl-d14	65	(37 - 137)
Phenol-d5	56	(25 - 115)
2-Fluorophenol	60	(11 - 116)
2,4,6-Tribromophenol	55	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124  
MB Lot-Sample #: A5B150000-352

Work Order #...: G4GGH1AA

Matrix.....: WATER

Prep Date.....: 02/15/05

Analysis Date..: 02/18/05

Prep Batch #...: 5046352

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	53	( 32 - 112)
2-Fluorobiphenyl	47	( 30 - 110)
Terphenyl-d14	63	( 10 - 144)
Phenol-d5	48	( 10 - 113)
2-Fluorophenol	47	( 13 - 110)
2,4,6-Tribromophenol	52	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124  
MB Lot-Sample #: A5B180000-073

Work Order #...: G4NM11AA

Matrix.....: SOLID

Prep Date.....: 02/18/05

Analysis Date..: 02/21/05

Prep Batch #...: 5049073

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	96	( 42 - 110)
2-Fluorobiphenyl	81	( 43 - 110)
Terphenyl-d14	93	( 37 - 137)
Phenol-d5	93	( 25 - 115)
2-Fluorophenol	91	( 11 - 116)
2,4,6-Tribromophenol	73	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B150000-021		<b>Prep Batch #...</b> : 5046021				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/15/05	G4EXR1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5B160000-017		Prep Batch #...: 5047017				
Arsenic	ND	0.010	mg/L	SW846 6010B	02/16/05	G4HCA1CC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B140124

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G4GHD1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5B150000-364 02/15-02/16/05	5046364
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4FFG1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B150000-195  
 Prep Date.....: 02/15/05      Analysis Date...: 02/16/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	75	(45 - 110)	SW846 8270C
Acenaphthene	78	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	80	(48 - 111)	SW846 8270C
Pyrene	79	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	89	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	83	(38 - 110)	SW846 8270C
Pentachlorophenol	70	(10 - 123)	SW846 8270C
Phenol	84	(35 - 110)	SW846 8270C
2-Chlorophenol	79	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	75	(43 - 110)	SW846 8270C
4-Nitrophenol	78	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	83	(42 - 110)
2-Fluorobiphenyl	77	(43 - 110)
Terphenyl-d14	84	(37 - 137)
Phenol-d5	87	(25 - 115)
2-Fluorophenol	86	(11 - 116)
2,4,6-Tribromophenol	73	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4FFP1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B150000-196  
 Prep Date.....: 02/15/05      Analysis Date...: 02/21/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	53	(45 - 110)	SW846 8270C
Acenaphthene	56	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	69	(48 - 111)	SW846 8270C
Pyrene	71	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	56	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	65	(38 - 110)	SW846 8270C
Pentachlorophenol	72	(10 - 123)	SW846 8270C
Phenol	53	(35 - 110)	SW846 8270C
2-Chlorophenol	52	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	60	(43 - 110)	SW846 8270C
4-Nitrophenol	66	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	57	(42 - 110)
2-Fluorobiphenyl	55	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	55	(25 - 115)
2-Fluorophenol	57	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4GGH1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5B150000-352      G4GGH1AD-LCSD  
 Prep Date.....: 02/15/05      Analysis Date...: 02/18/05  
 Prep Batch #...: 5046352  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	55	(31 - 110)			SW846 8270C
	53	(31 - 110)	3.9	(0-37)	SW846 8270C
Acenaphthene	64	(39 - 118)			SW846 8270C
	61	(39 - 118)	5.4	(0-35)	SW846 8270C
2,4-Dinitrotoluene	74	(47 - 131)			SW846 8270C
	69	(47 - 131)	6.5	(0-32)	SW846 8270C
Pyrene	73	(46 - 130)			SW846 8270C
	69	(46 - 130)	6.0	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl- amine	71	(30 - 115)			SW846 8270C
	70	(30 - 115)	0.74	(0-36)	SW846 8270C
1,4-Dichlorobenzene	58	(28 - 110)			SW846 8270C
	56	(28 - 110)	4.7	(0-36)	SW846 8270C
Pentachlorophenol	65	(10 - 140)			SW846 8270C
	71	(10 - 140)	8.4	(0-56)	SW846 8270C
Phenol	62	(10 - 131)			SW846 8270C
	60	(10 - 131)	2.9	(0-43)	SW846 8270C
2-Chlorophenol	62	(19 - 124)			SW846 8270C
	62	(19 - 124)	0.12	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	61	(29 - 124)			SW846 8270C
	61	(29 - 124)	0.98	(0-55)	SW846 8270C
4-Nitrophenol	66	(19 - 144)			SW846 8270C
	64	(19 - 144)	2.0	(0-34)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	67	(32 - 112)
	62	(32 - 112)
2-Fluorobiphenyl	62	(30 - 110)
	58	(30 - 110)
Terphenyl-d14	74	(10 - 144)
	71	(10 - 144)
Phenol-d5	62	(10 - 113)
	61	(10 - 113)
2-Fluorophenol	61	(13 - 110)
	60	(13 - 110)
2,4,6-Tribromophenol	70	(21 - 122)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4NM11AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B180000-073      G4NM11AD-LCSD  
 Prep Date.....: 02/18/05      Analysis Date...: 02/21/05  
 Prep Batch #...: 5049073  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	76	(45 - 110)			SW846 8270C
	88	(45 - 110)	15	(0-54)	SW846 8270C
Acenaphthene	78	(44 - 110)			SW846 8270C
	85	(44 - 110)	8.2	(0-44)	SW846 8270C
2,4-Dinitrotoluene	80	(48 - 111)			SW846 8270C
	91	(48 - 111)	13	(0-45)	SW846 8270C
Pyrene	79	(42 - 122)			SW846 8270C
	90	(42 - 122)	12	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl- amine	90	(38 - 110)			SW846 8270C
	92	(38 - 110)	1.5	(0-50)	SW846 8270C
1,4-Dichlorobenzene	83	(38 - 110)			SW846 8270C
	98	(38 - 110)	16	(0-59)	SW846 8270C
Pentachlorophenol	59	(10 - 123)			SW846 8270C
	62	(10 - 123)	5.7	(0-87)	SW846 8270C
Phenol	80	(35 - 110)			SW846 8270C
	93	(35 - 110)	15	(0-50)	SW846 8270C
2-Chlorophenol	78	(43 - 110)			SW846 8270C
	86	(43 - 110)	10	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	78	(43 - 110)			SW846 8270C
	80	(43 - 110)	2.2	(0-55)	SW846 8270C
4-Nitrophenol	83	(22 - 128)			SW846 8270C
	74	(22 - 128)	11	(0-64)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	89	(42 - 110)
	83	(42 - 110)
2-Fluorobiphenyl	75	(43 - 110)
	81	(43 - 110)
Terphenyl-d14	81	(37 - 137)
	88	(37 - 137)
Phenol-d5	80	(25 - 115)
	84	(25 - 115)
2-Fluorophenol	81	(11 - 116)
	84	(11 - 116)
2,4,6-Tribromophenol	68	(35 - 116)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B150000-021	Prep Batch #...:	5046021		
Arsenic	81	(80 - 120)	SW846 6010B	02/15/05	G4EXR1AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B160000-017	Prep Batch #...:	5047017		
Arsenic	88	(80 - 120)	SW846 6010B	02/16/05	G4HCA1CR
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4DX71AJ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B140124-006      G4DX71AK-MSD  
 Date Sampled...: 02/11/05 11:00      Date Received...: 02/14/05  
 Prep Date.....: 02/15/05      Analysis Date...: 02/17/05  
 Prep Batch #...: 5046195  
 Dilution Factor: 6.66

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	70 DIL	(16 - 121)			SW846 8270C
	77 DIL	(16 - 121)	10	(0-54)	SW846 8270C
Acenaphthene	59 DIL	(13 - 133)			SW846 8270C
	69 DIL	(13 - 133)	10	(0-44)	SW846 8270C
2,4-Dinitrotoluene	60 DIL	(10 - 171)			SW846 8270C
	60 DIL	(10 - 171)	0.16	(0-45)	SW846 8270C
Pyrene	0.0 DIL,a	(10 - 218)			SW846 8270C
	0.0 DIL,a	(10 - 218)	0.0	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	80 DIL	(12 - 128)			SW846 8270C
	76 DIL	(12 - 128)	5.3	(0-50)	SW846 8270C
1,4-Dichlorobenzene	80 DIL	(18 - 110)			SW846 8270C
	83 DIL	(18 - 110)	3.9	(0-59)	SW846 8270C
Pentachlorophenol	41 DIL	(10 - 144)			SW846 8270C
	44 DIL	(10 - 144)	6.4	(0-87)	SW846 8270C
Phenol	50 DIL	(10 - 148)			SW846 8270C
	48 DIL	(10 - 148)	3.1	(0-50)	SW846 8270C
2-Chlorophenol	73 DIL	(17 - 116)			SW846 8270C
	71 DIL	(17 - 116)	2.8	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	66 DIL	(17 - 128)			SW846 8270C
	70 DIL	(17 - 128)	5.4	(0-55)	SW846 8270C
4-Nitrophenol	47 DIL	(10 - 148)			SW846 8270C
	47 DIL	(10 - 148)	0.28	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76 DIL	(42 - 110)
	79 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
	72 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
	81 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
	67 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
	66 DIL	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4DX71AJ-MS      Matrix.....: SO  
MS Lot-Sample #: A5B140124-006      G4DX71AK-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	57 DIL	(35 - 116)
	54 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4D0K1AE-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B140124-013      G4D0K1AF-MSD  
 Date Sampled...: 02/11/05 11:20      Date Received...: 02/14/05  
 Prep Date.....: 02/15/05      Analysis Date...: 02/21/05  
 Prep Batch #...: 5046196  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	52	(16 - 121)			SW846 8270C
	61	(16 - 121)	16	(0-54)	SW846 8270C
Acenaphthene	61	(13 - 133)			SW846 8270C
	65	(13 - 133)	6.3	(0-44)	SW846 8270C
2,4-Dinitrotoluene	66	(10 - 171)			SW846 8270C
	66	(10 - 171)	0.45	(0-45)	SW846 8270C
Pyrene	33	(10 - 218)			SW846 8270C
	66	(10 - 218)	26	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	63	(12 - 128)			SW846 8270C
	72	(12 - 128)	13	(0-50)	SW846 8270C
1,4-Dichlorobenzene	54	(18 - 110)			SW846 8270C
	75	(18 - 110)	33	(0-59)	SW846 8270C
Pentachlorophenol	63	(10 - 144)			SW846 8270C
	60	(10 - 144)	6.2	(0-87)	SW846 8270C
Phenol	60	(10 - 148)			SW846 8270C
	63	(10 - 148)	5.6	(0-50)	SW846 8270C
2-Chlorophenol	54	(17 - 116)			SW846 8270C
	59	(17 - 116)	7.5	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	60	(17 - 128)			SW846 8270C
	59	(17 - 128)	1.5	(0-55)	SW846 8270C
4-Nitrophenol	62	(10 - 148)			SW846 8270C
	66	(10 - 148)	5.8	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	52	(42 - 110)
	66	(42 - 110)
2-Fluorobiphenyl	60	(43 - 110)
	63	(43 - 110)
Terphenyl-d14	70	(37 - 137)
	68	(37 - 137)
Phenol-d5	50	(25 - 115)
	48	(25 - 115)
2-Fluorophenol	38	(11 - 116)
	37	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B140124      Work Order #...: G4D0K1AE-MS      Matrix.....: SO  
MS Lot-Sample #: A5B140124-013      G4D0K1AF-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	33 *	(35 - 116)
	29 *	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

\* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: SO

Date Sampled...: 02/11/05 11:00 Date Received...: 02/14/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B140124-006 Prep Batch #...: 5046021

Arsenic	79	(75 - 125)			SW846 6010B	02/15-02/16/05	G4DX71AG
	103 *	(75 - 125)	23	(0-20)	SW846 6010B	02/15-02/16/05	G4DX71AH

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

\* Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B140124

Matrix.....: WATER

Date Sampled...: 02/15/05 08:15 Date Received...: 02/15/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B150319-002 Prep Batch #...: 5047017

Arsenic	97	(75 - 125)			SW846 6010B	02/16/05	G4GKT1C0
	94	(75 - 125)	3.2	(0-20)	SW846 6010B	02/16/05	G4GKT1C1

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B140124

Work Order #...: G4FJQ-SMP  
G4FJQ-DUP

Matrix.....: SOLID

Date Sampled...: 02/09/05 16:05    Date Received...: 02/15/05

% Moisture.....: 11

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	89.1	86.2	%	3.2	(0-20)	MCAWW 160.3 MOD	02/15-02/16/05	5046364
							SD Lot-Sample #: A5B150162-004	
							Dilution Factor: 1	



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

09023-84

PROJECT NAME:

Waukegan MAP Cole Site

**CHAIN-OF-CUSTODY RECORD**

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
----------	------	------	---------------------------	---------------	-------------------	------------	---------

	2/14/05	10:48	S-021105-PP-191	Soil	1	X	
	2/14/05	10:46	S-021105-PP-192	Soil	1	X	
	2/14/05	10:48	S-021105-PP-193	Soil	1	X	
	2/14/05	10:51	S-021105-PP-194	Soil	1	X	
	2/14/05	10:52	S-021105-PP-195	Soil	1	X	
	2/14/05	11:00	S-021105-PP-196	Soil	2	X	
	2/14/05	11:03	S-021105-PP-197	Soil	1	X	
	2/14/05	11:06	S-021105-PP-198	Soil	1	X	
	2/14/05	11:09	S-021105-PP-199	Soil	1	X	
	2/14/05	11:11	S-021105-PP-200	Soil	1	X	
	2/14/05	11:14	S-021105-PP-201	Soil	1	X	
	2/14/05	11:16	S-021105-PP-202	Soil	1	X	
	2/14/05	11:20	S-021105-PP-203	Soil	1	X	
	2/14/05	11:24	S-021105-PP-204	Soil	1	X	
	2/14/05	11:28	S-021105-PP-205	Soil	1	X	
<b>TOTAL NUMBER OF CONTAINERS</b>					16		2 WEEK TAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 2-11-05	RECEIVED BY: <i>[Signature]</i>	DATE: _____
TIME: 15:00	RECEIVED BY: <i>[Signature]</i>	DATE: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
TIME: _____	RECEIVED BY: _____	DATE: _____	TIME: _____

METHOD OF SHIPMENT: *FEDEX* AIR BILL No. *8467 5834 7509*

White -Fully Executed Copy  
 Yellow -Receiving Laboratory Copy  
 Pink -Shipper Copy  
 Goldenrod -Sampler Copy

SAMPLE TEAM: *P. PATHAK*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: *2-14-05* TIME: *8:55*

112191



**STL Cooler Receipt Form/Narrative**

Lot Number: A5B140124

**North Canton Facility**

Client: CRA  
Cooler Received on: 2-14-05

Project: Waykegal  
Opened on: 2-14-05

Quote#: \_\_\_\_\_  
by: Jerry Miller  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# 1271 Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 4.8 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM RUS Date: 2-14-05 by: ide via Voice Mail  Verbal  Other

Concerning: breakage / #1

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
The for sample -192, the bottom of the glass jar was cracked and the sample was sitting in water in the bubble bag. Per Dave Hendron, ok to analyze @

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) 192 - VASCHORABTEC were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials
<u>504</u>	<u>2</u>	<u>2-14-05</u>	<u>ide</u>

SOP: NC-SC-0005, Sample Receiving  
N:\QAQC\NARRATIVE\STL\Cooler Receipt STL\COOLER\_STL\_Rev45 112204.doc



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: ASB170145

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

February 28, 2005

## **CASE NARRATIVE**

A5B170145

The following report contains the analytical results for one solid sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The sample was received February 17, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on February 28, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 1.9° C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-021605-PP-035 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

Sample(s) S-021605-PP-035 had elevated reporting limits due to matrix interference.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



Y:\Barb\STL headers\Qc846-Narrative\_060204.doc, Revised06/02/04 DJL

# EXECUTIVE SUMMARY - Detection Highlights

A5B170145

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
NO DETECTABLE PARAMETERS				

# ANALYTICAL METHODS SUMMARY

A5B170145

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B170145

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G4LH4	001	S-021605-PP-035	02/16/05	08:15

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021605-PP-035

TCLP GC/MS Volatiles

Lot-Sample #...: A5B170145-001    Work Order #...: G4LH41AA    Matrix.....: SO  
 Date Sampled...: 02/16/05 08:15    Date Received..: 02/17/05  
 Leach Date.....: 02/21/05    Prep Date.....: 02/24/05    Analysis Date..: 02/24/05  
 Leach Batch #..: P505211    Prep Batch #...: 5054130  
 Dilution Factor: 20  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.50	mg/L
Carbon tetrachloride	ND	0.50	mg/L
Chlorobenzene	ND	0.50	mg/L
Chloroform	ND	0.50	mg/L
1,2-Dichloroethane	ND	0.50	mg/L
1,1-Dichloroethylene	ND	1.4	mg/L
Methyl ethyl ketone	ND	1.0	mg/L
Tetrachloroethylene	ND	1.4	mg/L
Trichloroethylene	ND	1.0	mg/L
Vinyl chloride	ND	0.50	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	98	(90 - 122)
4-Bromofluorobenzene	89	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021605-PP-035

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B170145-001    Work Order #...: G4LH42AD    Matrix.....: SO  
 Date Sampled...: 02/16/05 08:15    Date Received..: 02/17/05  
 Leach Date.....: 02/21/05    Prep Date.....: 02/23/05    Analysis Date..: 02/24/05  
 Leach Batch #..: P505207    Prep Batch #...: 5054187  
 Dilution Factor: 10  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.50	mg/L
m-Cresol & p-Cresol	ND	1.0	mg/L
1,4-Dichlorobenzene	ND	0.50	mg/L
2,4-Dinitrotoluene	ND	0.50	mg/L
Hexachlorobenzene	ND	0.50	mg/L
Hexachlorobutadiene	ND	0.50	mg/L
Hexachloroethane	ND	0.50	mg/L
Nitrobenzene	ND	0.50	mg/L
Pentachlorophenol	ND	1.0	mg/L
Pyridine	ND	1.0	mg/L
2,4,5-Trichloro-phenol	ND	2.5	mg/L
2,4,6-Trichloro-phenol	ND	0.50	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67 DIL	(32 - 112)
2-Fluorobiphenyl	62 DIL	(30 - 110)
Terphenyl-d14	72 DIL	(10 - 144)
Phenol-d5	0.0 DIL, *	(10 - 113)
2-Fluorophenol	0.0 DIL, *	(13 - 110)
2,4,6-Tribromophenol	0.0 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021605-PP-035

TCLP Metals

Lot-Sample #...: A5B170145-001

Matrix.....: SO

Date Sampled...: 02/16/05 08:15 Date Received...: 02/17/05

Leach Date.....: 02/21/05 Leach Batch #...: P505207

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5054024						
Arsenic	ND	0.50	mg/L	SW846 6010B	02/23/05	G4LH41AE
		Dilution Factor: 1				

**NOTE(S):**

---

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B170145      Work Order #...: G40AL1AD      Matrix.....: SOLID  
 MB Lot-Sample #: A5B230000-130  
 Leach Date.....: 02/21/05      Prep Date.....: 02/22/05      Analysis Date..: 02/22/05  
 Leach Batch #..: P505211      Prep Batch #...: 5054130  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(86 - 125)
1,2-Dichloroethane-d4	88	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B170145      Work Order #...: G40G51AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B230000-187  
 Leach Date.....: 02/21/05      Prep Date.....: 02/23/05      Analysis Date..: 02/24/05  
 Leach Batch #..: P505207      Prep Batch #...: 5054187  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	( 32 - 112)
2-Fluorobiphenyl	63	( 30 - 110)
Terphenyl-d14	83	( 10 - 144)
Phenol-d5	46	( 10 - 113)
2-Fluorophenol	59	( 13 - 110)
2,4,6-Tribromophenol	76	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B170145

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B210000-300		<b>Prep Batch #...</b> : 5054024				
<b>Leach Date.....</b> : 02/21/05		<b>Leach Batch #...</b> : P505207				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/23/05	G4TXA1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B170145

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B230000-024		<b>Prep Batch #...</b> : 5054024				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/23/05	G4X2D1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B170145      Work Order #...: G40AL1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B230000-130      G40AL1AC-LCSD  
 Prep Date.....: 02/22/05      Analysis Date...: 02/22/05  
 Prep Batch #...: 5054130  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	95	(76 - 118)			SW846 8260B
	95	(76 - 118)	0.29	(0-30)	SW846 8260B
Chlorobenzene	94	(76 - 113)			SW846 8260B
	94	(76 - 113)	0.64	(0-30)	SW846 8260B
1,1-Dichloroethylene	97	(67 - 128)			SW846 8260B
	97	(67 - 128)	0.28	(0-30)	SW846 8260B
Trichloroethylene	92	(76 - 119)			SW846 8260B
	90	(76 - 119)	1.3	(0-30)	SW846 8260B
Toluene	93	(72 - 117)			SW846 8260B
	91	(72 - 117)	1.8	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(86 - 124)
	98	(86 - 124)
1,2-Dichloroethane-d4	90	(80 - 122)
	91	(80 - 122)
Toluene-d8	100	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)
	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B170145      Work Order #...: G40G51AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B230000-187      G40G51AD-LCSD  
 Prep Date.....: 02/23/05      Analysis Date...: 02/24/05  
 Prep Batch #...: 5054187  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
o-Cresol	90	(33 - 115)			SW846 8270C
	77	(33 - 115)	15	(0-31)	SW846 8270C
m-Cresol & p-Cresol	83	(46 - 109)			SW846 8270C
	74	(46 - 109)	11	(0-32)	SW846 8270C
1,4-Dichlorobenzene	94	(28 - 110)			SW846 8270C
	100	(28 - 110)	6.4	(0-36)	SW846 8270C
2,4-Dinitrotoluene	94	(47 - 131)			SW846 8270C
	98	(47 - 131)	4.1	(0-32)	SW846 8270C
Hexachlorobenzene	93	(57 - 128)			SW846 8270C
	95	(57 - 128)	2.3	(0-22)	SW846 8270C
Hexachlorobutadiene	89	(36 - 116)			SW846 8270C
	82	(36 - 116)	8.2	(0-32)	SW846 8270C
Hexachloroethane	91	(30 - 110)			SW846 8270C
	81	(30 - 110)	11	(0-33)	SW846 8270C
Nitrobenzene	87	(45 - 130)			SW846 8270C
	85	(45 - 130)	2.4	(0-50)	SW846 8270C
Pentachlorophenol	91	(10 - 140)			SW846 8270C
	89	(10 - 140)	2.0	(0-56)	SW846 8270C
Pyridine	69	(10 - 148)			SW846 8270C
	48	(10 - 148)	36	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	95	(41 - 125)			SW846 8270C
	90	(41 - 125)	5.6	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	84	(46 - 135)			SW846 8270C
	78	(46 - 135)	6.7	(0-27)	SW846 8270C
Cresols (total)	86	(46 - 109)			SW846 8270C
	75	(46 - 109)	13	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	83	(32 - 112)
	81	(32 - 112)
2-Fluorobiphenyl	75	(30 - 110)
	74	(30 - 110)
Terphenyl-d14	89	(10 - 144)
	90	(10 - 144)
Phenol-d5	49	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B170145      Work Order #...: G40G51AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B230000-187      G40G51AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	41	(10 - 113)
2-Fluorophenol	64	(13 - 110)
	50	(13 - 110)
2,4,6-Tribromophenol	86	(21 - 122)
	81	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B170145

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B230000-024	Prep Batch #...:	5054024		
Arsenic	99	(50 - 150)	SW846 6010B	02/23/05	G4X2D1AL
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B170145      Work Order #...: G4QHR1AW-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5B180327-001      G4QHR1AX-MSD  
 Date Sampled...: 02/17/05 12:10      Date Received...: 02/18/05  
 Leach Date.....: 02/21/05      Prep Date.....: 02/23/05      Analysis Date...: 02/23/05  
 Leach Batch #...: P505211      Prep Batch #...: 5054130  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	98	(76 - 117)			SW846 8260B
	96	(76 - 117)	1.8	(0-30)	SW846 8260B
Chlorobenzene	96	(72 - 114)			SW846 8260B
	93	(72 - 114)	3.3	(0-30)	SW846 8260B
1,1-Dichloroethylene	99	(67 - 129)			SW846 8260B
	94	(67 - 129)	5.3	(0-30)	SW846 8260B
Trichloroethylene	92	(72 - 121)			SW846 8260B
	92	(72 - 121)	0.46	(0-30)	SW846 8260B
Toluene	93	(67 - 113)			SW846 8260B
	91	(67 - 113)	2.2	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 125)
	99	(86 - 125)
1,2-Dichloroethane-d4	92	(80 - 122)
	92	(80 - 122)
Toluene-d8	102	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)
	98	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B170145

Matrix.....: SOLID

Date Sampled...: 02/17/05 13:05 Date Received...: 02/18/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B180294-001 Prep Batch #...: 5054024

Leach Date.....: 02/21/05 Leach Batch #...: P505207

Arsenic	103	(50 - 150)			SW846 6010B	02/23/05	G4QAX1AW
	100	(50 - 150)	3.3	(0-20)	SW846 6010B	02/23/05	G4QAX1AX

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**STL Cooler Receipt Form/Narrative**

Lot Number: ASB170145

**North Canton Facility**

Client: CLT  
Cooler Received on: 2-17-05

Project: Waytegan  
Opened on: 2-17-05

Quote#: \_\_\_\_\_  
by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 1.9 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials

***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5B190136

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 3, 2005

# **CASE NARRATIVE**

A5B190136

The following report contains the analytical results for twenty-three solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 19, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 2, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.3°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Samples S-021805-PP-037 and S-021805-PP-039 had elevated reporting limits due to TICs..

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report samples S-021805-PP-220 and S-021805-PP-224 due to high analyte concentrations.

Samples S-021805-PP-210 and S-021805-PP-223 each had up to one surrogate recovery per fraction outside acceptance limits. However, since the recoveries were greater than 10% and all associated QC met criteria, no corrective action was taken.

Internal standard areas were outside acceptance limits for sample S-021805-PP-223 due to matrix effects (1,4-Dichlorobenzene-d4, Naphthalene-d8, Acenaphthene-d10, Phenanthrene-d10, Chrysene-d12, and Perylene-d12 out low).

Sample S-021805-PP-037 had elevated reporting limits due to TICs.

Sample S-021805-PP-217 had elevated reporting limits due to matrix interferences.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



## EXECUTIVE SUMMARY - Detection Highlights

A5B190136

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021805-PP-037 02/18/05 13:23 001</b>				
Arsenic - TCLP	0.57	0.50	mg/L	SW846 6010B
<b>S-021805-PP-207 02/18/05 10:45 002</b>				
Arsenic	23.2	1.4	mg/kg	SW846 6010B
Benzo(b)fluoranthene	490	470	ug/kg	SW846 8270C
Percent Solids	70.1	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-208 02/18/05 10:50 003</b>				
Arsenic	15.5	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2800	1500	ug/kg	SW846 8270C
Benzo(a)pyrene	1900	1500	ug/kg	SW846 8270C
Naphthalene	4600	1500	ug/kg	SW846 8270C
Benzo(a)anthracene	2500	1500	ug/kg	SW846 8270C
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-209 02/18/05 10:53 004</b>				
Arsenic	5860	6.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3400	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	2200	1600	ug/kg	SW846 8270C
Naphthalene	3000	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	2300	1600	ug/kg	SW846 8270C
Percent Solids	80.1	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-210 02/18/05 10:57 005</b>				
Arsenic	110	1.4	mg/kg	SW846 6010B
Percent Solids	72.7	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-211 02/18/05 11:02 006</b>				
Arsenic	24.7	6.4	mg/kg	SW846 6010B
Dibenzofuran	2800	2800	ug/kg	SW846 8270C
Naphthalene	7200	2800	ug/kg	SW846 8270C
Percent Solids	78.4	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-212 02/18/05 11:05 007</b>				
Arsenic	378	1.5	mg/kg	SW846 6010B
Percent Solids	65.8	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B190136

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021805-PP-213 02/18/05 11:10 008</b>				
Arsenic	7.2	1.6	mg/kg	SW846 6010B
Naphthalene	2200	510	ug/kg	SW846 8270C
Percent Solids	64.3	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-214 02/18/05 11:14 009</b>				
Arsenic	208	1.2	mg/kg	SW846 6010B
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-215 02/18/05 11:15 010</b>				
Arsenic	206	1.2	mg/kg	SW846 6010B
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-216 02/18/05 11:20 011</b>				
Arsenic	2.8	1.1	mg/kg	SW846 6010B
Percent Solids	87.0	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-217 02/18/05 11:25 012</b>				
Arsenic	4.1	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	900	750	ug/kg	SW846 8270C
Dibenzofuran	1400	750	ug/kg	SW846 8270C
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-218 02/18/05 11:28 013</b>				
Arsenic	4.5	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4200	1900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2200	1900	ug/kg	SW846 8270C
Percent Solids	87.0	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-219 02/18/05 11:33 014</b>				
Arsenic	4.3	1.1	mg/kg	SW846 6010B
Naphthalene	21000	9300	ug/kg	SW846 8270C
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A5B190136

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-021805-PP-220 02/18/05 11:38 015</b>				
Arsenic	36.2	1.2	mg/kg	SW846 6010B
Naphthalene	22000000	3100000	ug/kg	SW846 8270C
	Qualifiers: E			
Naphthalene	58000000	38000000	ug/kg	SW846 8270C
Percent Solids	81.1	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-221 02/18/05 11:42 016</b>				
Arsenic	26.1	7.0	mg/kg	SW846 6010B
Dibenzofuran	12000	12000	ug/kg	SW846 8270C
Naphthalene	38000	12000	ug/kg	SW846 8270C
Percent Solids	71.6	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-222 02/18/05 11:45 017</b>				
Arsenic	676	1.3	mg/kg	SW846 6010B
Naphthalene	43000	21000	ug/kg	SW846 8270C
Percent Solids	77.5	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-223 02/18/05 11:50 018</b>				
Arsenic	8.8	1.2	mg/kg	SW846 6010B
Naphthalene	480	410	ug/kg	SW846 8270C
Percent Solids	81.4	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-224 02/18/05 11:53 019</b>				
Arsenic	237	6.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	300000 E	46000	ug/kg	SW846 8270C
Benzo(a)pyrene	210000	46000	ug/kg	SW846 8270C
Dibenzofuran	85000	46000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	98000	46000	ug/kg	SW846 8270C
Naphthalene	190000	46000	ug/kg	SW846 8270C
Benzo(a)anthracene	250000 E	46000	ug/kg	SW846 8270C
Benzo(b)fluoranthene	210000	61000	ug/kg	SW846 8270C
Benzo(a)pyrene	150000	61000	ug/kg	SW846 8270C
Dibenzofuran	61000	61000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	71000	61000	ug/kg	SW846 8270C
Naphthalene	160000	61000	ug/kg	SW846 8270C
Benzo(a)anthracene	230000	61000	ug/kg	SW846 8270C
Percent Solids	72.1	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B190136

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-021805-PP-225 02/18/05 12:38 020</b>				
Arsenic	110	1.8	mg/kg	SW846 6010B
Benzo(b)fluoranthene	5500	2300	ug/kg	SW846 8270C
Benzo(a)pyrene	4300	2300	ug/kg	SW846 8270C
Dibenzofuran	2600	2300	ug/kg	SW846 8270C
Naphthalene	5800	2300	ug/kg	SW846 8270C
Benzo(a)anthracene	6200	2300	ug/kg	SW846 8270C
Percent Solids	56.3	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-226 02/18/05 11:47 021</b>				
Arsenic	24.8	6.5	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3000	1700	ug/kg	SW846 8270C
Benzo(a)pyrene	2100	1700	ug/kg	SW846 8270C
Naphthalene	3900	1700	ug/kg	SW846 8270C
Benzo(a)anthracene	2600	1700	ug/kg	SW846 8270C
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-227 02/18/05 12:45 022</b>				
Arsenic	313	1.1	mg/kg	SW846 6010B
Percent Solids	89.6	10.0	%	MCAWW 160.3 MOD
<b>S-021805-PP-039 02/18/05 13:35 024</b>				
Arsenic - TCLP	0.92	0.50	mg/L	SW846 6010B
o-Cresol	0.48	0.33	mg/L	SW846 8270C
m-Cresol & p-Cresol	1.2	0.67	mg/L	SW846 8270C

# ANALYTICAL METHODS SUMMARY

A5B190136

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B190136

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G4RJG	001	S-021805-PP-037	02/18/05	13:23
G4RJJ	002	S-021805-PP-207	02/18/05	10:45
G4RJK	003	S-021805-PP-208	02/18/05	10:50
G4RJL	004	S-021805-PP-209	02/18/05	10:53
G4RJM	005	S-021805-PP-210	02/18/05	10:57
G4RJN	006	S-021805-PP-211	02/18/05	11:02
G4RJQ	007	S-021805-PP-212	02/18/05	11:05
G4RJR	008	S-021805-PP-213	02/18/05	11:10
G4RJV	009	S-021805-PP-214	02/18/05	11:14
G4RJW	010	S-021805-PP-215	02/18/05	11:15
G4RJX	011	S-021805-PP-216	02/18/05	11:20
G4RJ0	012	S-021805-PP-217	02/18/05	11:25
G4RJ1	013	S-021805-PP-218	02/18/05	11:28
G4RJ2	014	S-021805-PP-219	02/18/05	11:33
G4RJ3	015	S-021805-PP-220	02/18/05	11:38
G4RJ4	016	S-021805-PP-221	02/18/05	11:42
G4RJ5	017	S-021805-PP-222	02/18/05	11:45
G4RJ6	018	S-021805-PP-223	02/18/05	11:50
G4RJ7	019	S-021805-PP-224	02/18/05	11:53
G4RJ8	020	S-021805-PP-225	02/18/05	12:38
G4RJ9	021	S-021805-PP-226	02/18/05	11:47
G4RKA	022	S-021805-PP-227	02/18/05	12:45
G4RKC	023	W-021805-PP-505	02/18/05	13:05
G4RKG	024	S-021805-PP-039	02/18/05	13:35

## **NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-037

TCLP GC/MS Volatiles

Lot-Sample #...: A5B190136-001    Work Order #...: G4RJG1AA    Matrix.....: SO  
Date Sampled...: 02/18/05 13:23    Date Received..: 02/19/05  
Leach Date.....: 02/22/05    Prep Date.....: 02/24/05    Analysis Date..: 02/24/05  
Leach Batch #..: P505309    Prep Batch #...: 5056244  
Dilution Factor: 6.67  
% Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	92	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-037

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B190136-001    Work Order #...: G4RJG1AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 13:23    Date Received..: 02/19/05  
 Leach Date.....: 02/22/05    Prep Date.....: 02/23/05    Analysis Date..: 02/28/05  
 Leach Batch #..: P505305    Prep Batch #...: 5054043  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.25	mg/L
m-Cresol & p-Cresol	ND	0.50	mg/L
1,4-Dichlorobenzene	ND	0.25	mg/L
2,4-Dinitrotoluene	ND	0.25	mg/L
Hexachlorobenzene	ND	0.25	mg/L
Hexachlorobutadiene	ND	0.25	mg/L
Hexachloroethane	ND	0.25	mg/L
Nitrobenzene	ND	0.25	mg/L
Pentachlorophenol	ND	0.50	mg/L
Pyridine	ND	0.50	mg/L
2,4,5-Trichloro-phenol	ND	1.2	mg/L
2,4,6-Trichloro-phenol	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	66 DIL	(32 - 112)
2-Fluorobiphenyl	62 DIL	(30 - 110)
Terphenyl-d14	80 DIL	(10 - 144)
Phenol-d5	67 DIL	(10 - 113)
2-Fluorophenol	39 DIL	(13 - 110)
2,4,6-Tribromophenol	87 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-037

TCLP Metals

Lot-Sample #...: A5B190136-001

Matrix.....: SO

Date Sampled...: 02/18/05 13:23 Date Received...: 02/19/05

Leach Date.....: 02/22/05 Leach Batch #...: P505305

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5055026

Arsenic	0.57	0.50	mg/L	SW846 6010B	02/24-02/28/05	G4RJG1AE
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Dilution Factor: 1

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-207

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-002    Work Order #...: G4RJJ2AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 10:45    Date Received...: 02/19/05  
 Prep Date.....: 02/24/05    Analysis Date...: 02/25/05  
 Prep Batch #...: 5055222  
 Dilution Factor: 1  
 % Moisture.....: 30    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	470	ug/kg
<b>Benzo(b)fluoranthene</b>	<b>490</b>	<b>470</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	470	ug/kg
Dibenz(a,h)anthracene	ND	470	ug/kg
Dibenzofuran	ND	470	ug/kg
Indeno(1,2,3-cd)pyrene	ND	470	ug/kg
4-Methylphenol	ND	470	ug/kg
Naphthalene	ND	470	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	67	(43 - 110)
Terphenyl-d14	87	(37 - 137)
Phenol-d5	63	(25 - 115)
2-Fluorophenol	58	(11 - 116)
2,4,6-Tribromophenol	62	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-207

TOTAL Metals

Lot-Sample #...: A5B190136-002

Matrix.....: SO

Date Sampled...: 02/18/05 10:45 Date Received...: 02/19/05

% Moisture.....: 30

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	23.2	1.4	mg/kg	SW846 6010B	02/22-02/24/05	G4RJJ1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-207

General Chemistry

Lot-Sample #...: A5B190136-002    Work Order #...: G4RJJ    Matrix.....: SO  
Date Sampled...: 02/18/05 10:45    Date Received..: 02/19/05  
% Moisture.....: 30

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	70.1	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-208

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-003    Work Order #...: G4RJK1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 10:50    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
Prep Batch #...: 5051052  
Dilution Factor: 4  
% Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2800	1500	ug/kg
Benzo(a)pyrene	1900	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	4600	1500	ug/kg
Benzo(a)anthracene	2500	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	79 DIL	(42 - 110)
2-Fluorobiphenyl	85 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	77 DIL	(25 - 115)
2-Fluorophenol	73 DIL	(11 - 116)
2,4,6-Tribromophenol	65 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-208

TOTAL Metals

Lot-Sample #...: A5B190136-003

Matrix.....: SO

Date Sampled...: 02/18/05 10:50 Date Received...: 02/19/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	15.5	1.1	mg/kg	SW846 6010B	02/22-02/24/05	G4RJK1AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-208

General Chemistry

Lot-Sample #...: A5B190136-003    Work Order #...: G4RJK    Matrix.....: SO  
Date Sampled...: 02/18/05 10:50    Date Received..: 02/19/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-209

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-004    Work Order #...: G4RJL1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 10:53    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
Prep Batch #...: 5051052  
Dilution Factor: 4  
% Moisture.....: 20    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	3400	1600	ug/kg
Benzo(a)pyrene	2200	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	3000	1600	ug/kg
Benzo(a)anthracene	2300	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	80 DIL	(43 - 110)
Terphenyl-d14	87 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	74 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-209

TOTAL Metals

Lot-Sample #...: A5B190136-004

Matrix.....: SO

Date Sampled...: 02/18/05 10:53 Date Received...: 02/19/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	5860	6.2	mg/kg	SW846 6010B	02/22-02/24/05	G4RJL1AC
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Dilution Factor: 5

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-209

General Chemistry

Lot-Sample #...: A5B190136-004    Work Order #...: G4RJL    Matrix.....: SO  
Date Sampled...: 02/18/05 10:53    Date Received..: 02/19/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.1	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-210

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-005    Work Order #...: G4RJM1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 10:57    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/24/05  
Prep Batch #...: 5051052  
Dilution Factor: 1  
% Moisture.....: 27    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	450	ug/kg
Benzo(a)pyrene	ND	450	ug/kg
Dibenz(a,h)anthracene	ND	450	ug/kg
Dibenzofuran	ND	450	ug/kg
Indeno(1,2,3-cd)pyrene	ND	450	ug/kg
4-Methylphenol	ND	450	ug/kg
Naphthalene	ND	450	ug/kg
Benzo(a)anthracene	ND	450	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Nitrobenzene-d5	76	( 42 - 110)
2-Fluorobiphenyl	73	( 43 - 110)
Terphenyl-d14	72	( 37 - 137)
Phenol-d5	40	( 25 - 115)
2-Fluorophenol	29	( 11 - 116)
2,4,6-Tribromophenol	25 *	( 35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-210

TOTAL Metals

Lot-Sample #...: A5B190136-005

Matrix.....: SO

Date Sampled...: 02/18/05 10:57 Date Received...: 02/19/05

% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	110	1.4	mg/kg	SW846 6010B	02/22-02/24/05	G4RJM1AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-210

General Chemistry

Lot-Sample #...: A5B190136-005    Work Order #...: G4RJM    Matrix.....: SO  
Date Sampled...: 02/18/05 10:57    Date Received..: 02/19/05  
% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	72.7	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-211

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-006    Work Order #...: G4RJN1AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:02    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
 Prep Batch #...: 5051052  
 Dilution Factor: 6.66  
 % Moisture.....: 22    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	2800	ug/kg
Benzo(a)pyrene	ND	2800	ug/kg
Dibenz(a,h)anthracene	ND	2800	ug/kg
<b>Dibenzofuran</b>	<b>2800</b>	<b>2800</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	2800	ug/kg
4-Methylphenol	ND	2800	ug/kg
<b>Naphthalene</b>	<b>7200</b>	<b>2800</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	2800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	139 DIL, *	(42 - 110)
2-Fluorobiphenyl	82 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	62 DIL	(25 - 115)
2-Fluorophenol	63 DIL	(11 - 116)
2,4,6-Tribromophenol	71 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-211

TOTAL Metals

Lot-Sample #...: A5B190136-006

Matrix.....: SO

Date Sampled...: 02/18/05 11:02 Date Received...: 02/19/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	24.7	6.4	mg/kg	SW846 6010B	02/22-02/24/05	G4RJN1AC
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Dilution Factor: 5

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-211

General Chemistry

Lot-Sample #...: A5B190136-006    Work Order #...: G4RJN    Matrix.....: SO  
Date Sampled...: 02/18/05 11:02    Date Received..: 02/19/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.4	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-212

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-007    Work Order #...: G4RJQ2AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:05    Date Received...: 02/19/05  
Prep Date.....: 02/24/05    Analysis Date...: 02/25/05  
Prep Batch #...: 5055222  
Dilution Factor: 1  
% Moisture.....: 34    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	500	ug/kg
Benzo(b)fluoranthene	ND	500	ug/kg
Benzo(a)pyrene	ND	500	ug/kg
Dibenz(a,h)anthracene	ND	500	ug/kg
Dibenzofuran	ND	500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	500	ug/kg
4-Methylphenol	ND	500	ug/kg
Naphthalene	ND	500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	58	(42 - 110)
2-Fluorobiphenyl	56	(43 - 110)
Terphenyl-d14	78	(37 - 137)
Phenol-d5	53	(25 - 115)
2-Fluorophenol	44	(11 - 116)
2,4,6-Tribromophenol	57	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-212

TOTAL Metals

Lot-Sample #...: A5B190136-007

Matrix.....: SO

Date Sampled...: 02/18/05 11:05 Date Received...: 02/19/05

% Moisture.....: 34

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	378	1.5	mg/kg	SW846 6010B	02/22-02/24/05	G4RJQ1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-212

General Chemistry

Lot-Sample #...: A5B190136-007    Work Order #...: G4RJQ    Matrix.....: SO  
Date Sampled...: 02/18/05 11:05    Date Received..: 02/19/05  
% Moisture.....: 34

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	65.8	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-213

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-008    Work Order #...: G4RJR1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:10    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
Prep Batch #...: 5051052  
Dilution Factor: 1  
% Moisture.....: 36    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	510	ug/kg
Benzo(a)pyrene	ND	510	ug/kg
Dibenz(a,h)anthracene	ND	510	ug/kg
Dibenzofuran	ND	510	ug/kg
Indeno(1,2,3-cd)pyrene	ND	510	ug/kg
4-Methylphenol	ND	510	ug/kg
<b>Naphthalene</b>	<b>2200</b>	<b>510</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	510	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76	(42 - 110)
2-Fluorobiphenyl	69	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	75	(25 - 115)
2-Fluorophenol	75	(11 - 116)
2,4,6-Tribromophenol	64	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-213

TOTAL Metals

Lot-Sample #...: A5B190136-008

Matrix.....: SO

Date Sampled...: 02/18/05 11:10 Date Received...: 02/19/05

% Moisture.....: 36

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	7.2	1.6	mg/kg	SW846 6010B	02/22-02/24/05	G4RJR1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-213

General Chemistry

Lot-Sample #...: A5B190136-008    Work Order #...: G4RJR    Matrix.....: SO  
Date Sampled...: 02/18/05 11:10    Date Received..: 02/19/05  
% Moisture.....: 36

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	64.3	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-214

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-009    Work Order #...: G4RJV1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:14    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
Prep Batch #...: 5051052  
Dilution Factor: 1  
% Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	390	ug/kg
Benzo(a)pyrene	ND	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	ND	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	72	( 42 - 110)
2-Fluorobiphenyl	71	( 43 - 110)
Terphenyl-d14	80	( 37 - 137)
Phenol-d5	67	( 25 - 115)
2-Fluorophenol	59	( 11 - 116)
2,4,6-Tribromophenol	56	( 35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-214

TOTAL Metals

Lot-Sample #...: A5B190136-009

Matrix.....: SO

Date Sampled...: 02/18/05 11:14 Date Received...: 02/19/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	208	1.2	mg/kg	SW846 6010B	02/22-02/24/05	G4RJV1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-214

General Chemistry

Lot-Sample #...: A5B190136-009    Work Order #...: G4RJV    Matrix.....: SO  
Date Sampled...: 02/18/05 11:14    Date Received..: 02/19/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-215

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-010    Work Order #...: G4RJW1AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:15    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/23/05  
Prep Batch #...: 5051052  
Dilution Factor: 1  
% Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	400	ug/kg
Benzo(a)pyrene	ND	400	ug/kg
Dibenz(a,h)anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd)pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo(a)anthracene	ND	400	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	74	( 42 - 110)
2-Fluorobiphenyl	70	( 43 - 110)
Terphenyl-d14	82	( 37 - 137)
Phenol-d5	71	( 25 - 115)
2-Fluorophenol	66	( 11 - 116)
2,4,6-Tribromophenol	64	( 35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-215

TOTAL Metals

Lot-Sample #...: A5B190136-010

Matrix.....: SO

Date Sampled...: 02/18/05 11:15 Date Received...: 02/19/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	206	1.2	mg/kg	SW846 6010B	02/22-02/24/05	G4RJW1AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-215

General Chemistry

Lot-Sample #...: A5B190136-010    Work Order #...: G4RJW    Matrix.....: SO  
Date Sampled...: 02/18/05 11:15    Date Received..: 02/19/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.0	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-216

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-011    Work Order #...: G4RJX1AF    Matrix.....: SO  
Date Sampled...: 02/18/05 11:20    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/25/05  
Prep Batch #...: 5051053  
Dilution Factor: 1  
% Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	380	ug/kg
Benzo(a)pyrene	ND	380	ug/kg
Dibenz(a,h)anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo(a)anthracene	ND	380	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	94	(37 - 137)
Phenol-d5	81	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2,4,6-Tribromophenol	73	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-216

TOTAL Metals

Lot-Sample #...: A5B190136-011

Matrix.....: SO

Date Sampled...: 02/18/05 11:20 Date Received...: 02/19/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	2.8	1.1	mg/kg	SW846 6010B	02/22-02/24/05	G4RJX1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-216

General Chemistry

Lot-Sample #...: A5B190136-011    Work Order #...: G4RJX    Matrix.....: SO  
Date Sampled...: 02/18/05 11:20    Date Received..: 02/19/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.0	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-217

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-012    Work Order #...: G4RJ01AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:25    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 2  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>900</b>	<b>750</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	750	ug/kg
Dibenz(a,h)anthracene	ND	750	ug/kg
<b>Dibenzofuran</b>	<b>1400</b>	<b>750</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	750	ug/kg
4-Methylphenol	ND	750	ug/kg
Naphthalene	ND	750	ug/kg
Benzo(a)anthracene	ND	750	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	89 DIL	(42 - 110)
2-Fluorobiphenyl	75 DIL	(43 - 110)
Terphenyl-d14	90 DIL	(37 - 137)
Phenol-d5	91 DIL	(25 - 115)
2-Fluorophenol	92 DIL	(11 - 116)
2,4,6-Tribromophenol	85 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-217

TOTAL Metals

Lot-Sample #...: A5B190136-012

Matrix.....: SO

Date Sampled...: 02/18/05 11:25 Date Received...: 02/19/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	4.1	1.1	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ01AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-217

General Chemistry

Lot-Sample #...: A5B190136-012    Work Order #...: G4RJ0    Matrix.....: SO  
Date Sampled...: 02/18/05 11:25    Date Received..: 02/19/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.8	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-218

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-013    Work Order #...: G4RJ11AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:28    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 5  
 % Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>4200</b>	<b>1900</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	1900	ug/kg
Dibenz(a,h)anthracene	ND	1900	ug/kg
Dibenzofuran	ND	1900	ug/kg
<b>Indeno(1,2,3-cd)pyrene</b>	<b>2200</b>	<b>1900</b>	<b>ug/kg</b>
4-Methylphenol	ND	1900	ug/kg
Naphthalene	ND	1900	ug/kg
Benzo(a)anthracene	ND	1900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	84 DIL	(25 - 115)
2-Fluorophenol	75 DIL	(11 - 116)
2,4,6-Tribromophenol	76 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-218

TOTAL Metals

Lot-Sample #...: A5B190136-013

Matrix.....: SO

Date Sampled...: 02/18/05 11:28 Date Received...: 02/19/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	4.5	1.1	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ11AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-218

General Chemistry

Lot-Sample #...: A5B190136-013    Work Order #...: G4RJ1    Matrix.....: SO  
Date Sampled...: 02/18/05 11:28    Date Received..: 02/19/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.0	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-219

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-014    Work Order #...: G4RJ21AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:33    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
Prep Batch #...: 5051053  
Dilution Factor: 25  
% Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	9300	ug/kg
Benzo(a)pyrene	ND	9300	ug/kg
Dibenz(a,h)anthracene	ND	9300	ug/kg
Dibenzofuran	ND	9300	ug/kg
Indeno(1,2,3-cd)pyrene	ND	9300	ug/kg
4-Methylphenol	ND	9300	ug/kg
<b>Naphthalene</b>	<b>21000</b>	<b>9300</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	9300	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	61 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	67 DIL	(11 - 116)
2,4,6-Tribromophenol	77 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-219

TOTAL Metals

Lot-Sample #...: A5B190136-014

Matrix.....: SO

Date Sampled...: 02/18/05 11:33 Date Received...: 02/19/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	4.3	1.1	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ21AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-219

General Chemistry

Lot-Sample #...: A5B190136-014    Work Order #...: G4RJ2    Matrix.....: SO  
Date Sampled...: 02/18/05 11:33    Date Received..: 02/19/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-220

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-015    Work Order #...: G4RJ31AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:38    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 2500  
 % Moisture.....: 19    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	ND	3100000	ug/kg
Benzo(a)pyrene	ND	3100000	ug/kg
Dibenz(a,h)anthracene	ND	3100000	ug/kg
Dibenzofuran	ND	3100000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	3100000	ug/kg
4-Methylphenol	ND	3100000	ug/kg
<b>Naphthalene</b>	<b>22000000 E</b>	<b>3100000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	3100000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-220

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-015    Work Order #...: G4RJ32AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:38    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 03/02/05  
Prep Batch #...: 5051053  
Dilution Factor: 31250  
% Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	38000000	ug/kg
Benzo(a)pyrene	ND	38000000	ug/kg
Dibenz(a,h)anthracene	ND	38000000	ug/kg
Dibenzofuran	ND	38000000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	38000000	ug/kg
4-Methylphenol	ND	38000000	ug/kg
<b>Naphthalene</b>	<b>58000000</b>	<b>38000000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	38000000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-220

TOTAL Metals

Lot-Sample #...: A5B190136-015

Matrix.....: SO

Date Sampled...: 02/18/05 11:38 Date Received...: 02/19/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	36.2	1.2	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ31AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-220

General Chemistry

Lot-Sample #...: A5B190136-015    Work Order #...: G4RJ3    Matrix.....: SO  
Date Sampled...: 02/18/05 11:38    Date Received..: 02/19/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.1	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-221

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-016    Work Order #...: G4RJ41AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:42    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 03/01/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 25  
 % Moisture.....: 28    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	12000	ug/kg
Benzo(a)pyrene	ND	12000	ug/kg
Dibenz(a,h)anthracene	ND	12000	ug/kg
<b>Dibenzofuran</b>	<b>12000</b>	<b>12000</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	12000	ug/kg
4-Methylphenol	ND	12000	ug/kg
<b>Naphthalene</b>	<b>38000</b>	<b>12000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	12000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	78 DIL	(42 - 110)
2-Fluorobiphenyl	77 DIL	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-221

TOTAL Metals

Lot-Sample #...: A5B190136-016

Matrix.....: SO

Date Sampled...: 02/18/05 11:42 Date Received...: 02/19/05

% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	26.1	7.0	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ41AC
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Dilution Factor: 5

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-221

General Chemistry

Lot-Sample #...: A5B190136-016    Work Order #...: G4RJ4    Matrix.....: SO  
Date Sampled...: 02/18/05 11:42    Date Received..: 02/19/05  
% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	71.6	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-222

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-017    Work Order #...: G4RJ51AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:45    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 50  
 % Moisture.....: 22    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	21000	ug/kg
Benzo(a)pyrene	ND	21000	ug/kg
Dibenz(a,h)anthracene	ND	21000	ug/kg
Dibenzofuran	ND	21000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	21000	ug/kg
4-Methylphenol	ND	21000	ug/kg
<b>Naphthalene</b>	<b>43000</b>	<b>21000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	21000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-222

TOTAL Metals

Lot-Sample #...: A5B190136-017

Matrix.....: SO

Date Sampled...: 02/18/05 11:45 Date Received...: 02/19/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	676	1.3	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ51AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-222

General Chemistry

Lot-Sample #...: A5B190136-017    Work Order #...: G4RJ5    Matrix.....: SO  
Date Sampled...: 02/18/05 11:45    Date Received..: 02/19/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.5	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-223

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-018    Work Order #...: G4RJ61AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:50    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 1  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	410	ug/kg
Benzo(a)pyrene	ND	410	ug/kg
Dibenz(a,h)anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
<b>Naphthalene</b>	<b>480</b>	<b>410</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	410	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	76	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	82	(37 - 137)
Phenol-d5	37	(25 - 115)
2-Fluorophenol	20	(11 - 116)
2,4,6-Tribromophenol	13 *	(35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-223

TOTAL Metals

Lot-Sample #...: A5B190136-018

Matrix.....: SO

Date Sampled...: 02/18/05 11:50 Date Received...: 02/19/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	8.8	1.2	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ61AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-223

General Chemistry

Lot-Sample #...: A5B190136-018    Work Order #...: G4RJ6    Matrix.....: SO  
Date Sampled...: 02/18/05 11:50    Date Received..: 02/19/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.4	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-224

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-019    Work Order #...: G4RJ71AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:53    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 100  
 % Moisture.....: 28    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	300000 E	46000	ug/kg
Benzo(a)pyrene	210000	46000	ug/kg
Dibenz(a,h)anthracene	ND	46000	ug/kg
Dibenzofuran	85000	46000	ug/kg
Indeno(1,2,3-cd)pyrene	98000	46000	ug/kg
4-Methylphenol	ND	46000	ug/kg
Naphthalene	190000	46000	ug/kg
Benzo(a)anthracene	250000 E	46000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-224

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-019    Work Order #...: G4RJ72AD    Matrix.....: SO  
Date Sampled...: 02/18/05 11:53    Date Received..: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date..: 03/01/05  
Prep Batch #...: 5051053  
Dilution Factor: 133.34  
% Moisture.....: 28    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	210000	61000	ug/kg
Benzo(a)pyrene	150000	61000	ug/kg
Dibenz(a,h)anthracene	ND	61000	ug/kg
Dibenzofuran	61000	61000	ug/kg
Indeno(1,2,3-cd)pyrene	71000	61000	ug/kg
4-Methylphenol	ND	61000	ug/kg
Naphthalene	160000	61000	ug/kg
Benzo(a)anthracene	230000	61000	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-224

TOTAL Metals

Lot-Sample #...: A5B190136-019

Matrix.....: SO

Date Sampled...: 02/18/05 11:53 Date Received...: 02/19/05

% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	237	6.9	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ71AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-224

General Chemistry

Lot-Sample #...: A5B190136-019    Work Order #...: G4RJ7    Matrix.....: SO  
Date Sampled...: 02/18/05 11:53    Date Received..: 02/19/05  
% Moisture.....: 28

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	72.1	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-225

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-020    Work Order #...: G4RJ81AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 12:38    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 4  
 % Moisture.....: 44    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	5500	2300	ug/kg
Benzo(a)pyrene	4300	2300	ug/kg
Dibenz(a,h)anthracene	ND	2300	ug/kg
Dibenzofuran	2600	2300	ug/kg
Indeno(1,2,3-cd)pyrene	ND	2300	ug/kg
4-Methylphenol	ND	2300	ug/kg
Naphthalene	5800	2300	ug/kg
Benzo(a)anthracene	6200	2300	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	45 DIL	(25 - 115)
2-Fluorophenol	28 DIL	(11 - 116)
2,4,6-Tribromophenol	16 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-225

TOTAL Metals

Lot-Sample #...: A5B190136-020

Matrix.....: SO

Date Sampled...: 02/18/05 12:38 Date Received...: 02/19/05

% Moisture.....: 44

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	110	1.8	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ81AC
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Dilution Factor: 1

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-225

General Chemistry

Lot-Sample #...: A5B190136-020    Work Order #...: G4RJ8    Matrix.....: SO  
Date Sampled...: 02/18/05 12:38    Date Received..: 02/19/05  
% Moisture.....: 44

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	56.3	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-226

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-021    Work Order #...: G4RJ91AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 11:47    Date Received...: 02/19/05  
 Prep Date.....: 02/20/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 4  
 % Moisture.....: 23    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	3000	1700	ug/kg
Benzo(a)pyrene	2100	1700	ug/kg
Dibenz(a,h)anthracene	ND	1700	ug/kg
Dibenzofuran	ND	1700	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1700	ug/kg
4-Methylphenol	ND	1700	ug/kg
Naphthalene	3900	1700	ug/kg
Benzo(a)anthracene	2600	1700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	78 DIL	(42 - 110)
2-Fluorobiphenyl	73 DIL	(43 - 110)
Terphenyl-d14	88 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	50 DIL	(11 - 116)
2,4,6-Tribromophenol	60 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-226

TOTAL Metals

Lot-Sample #...: A5B190136-021

Matrix.....: SO

Date Sampled...: 02/18/05 11:47 Date Received...: 02/19/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5053029

Arsenic	24.8	6.5	mg/kg	SW846 6010B	02/22-02/24/05	G4RJ91AC
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Dilution Factor: 5

**NOTE(S):**

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Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-226

General Chemistry

Lot-Sample #...: A5B190136-021    Work Order #...: G4RJ9    Matrix.....: SO  
Date Sampled...: 02/18/05 11:47    Date Received..: 02/19/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052383

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-227

TOTAL Metals

Lot-Sample #...: A5B190136-022

Matrix.....: WG

Date Sampled...: 02/18/05 12:45 Date Received...: 02/19/05

% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5054031

Arsenic	313	1.1	mg/kg	SW846 6010B	02/23-02/24/05	G4RKA1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-227

General Chemistry

Lot-Sample #...: A5B190136-022    Work Order #...: G4RKA    Matrix.....: WG  
Date Sampled...: 02/18/05 12:45    Date Received..: 02/19/05  
% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.6	10.0	%	MCAWW 160.3 MOD	02/21-02/22/05	5052380

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-021805-PP-505

GC/MS Semivolatiles

Lot-Sample #...: A5B190136-023    Work Order #...: G4RKC1AC    Matrix.....: WG  
Date Sampled...: 02/18/05 13:05    Date Received...: 02/19/05  
Prep Date.....: 02/20/05    Analysis Date...: 02/24/05  
Prep Batch #...: 5051056  
Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	76	( 32 - 112)
2-Fluorobiphenyl	66	( 30 - 110)
Terphenyl-d14	88	( 10 - 144)
Phenol-d5	69	( 10 - 113)
2-Fluorophenol	65	( 13 - 110)
2,4,6-Tribromophenol	71	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-021805-PP-505

TOTAL Metals

Lot-Sample #...: A5B190136-023

Matrix.....: WG

Date Sampled...: 02/18/05 13:05 Date Received...: 02/19/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5053025						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/22-02/24/05	G4RKC1AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-039

TCLP GC/MS Volatiles

Lot-Sample #...: A5B190136-024    Work Order #...: G4RKG1AA    Matrix.....: SO  
Date Sampled...: 02/18/05 13:35    Date Received..: 02/19/05  
Leach Date.....: 02/22/05    Prep Date.....: 02/24/05    Analysis Date..: 02/24/05  
Leach Batch #..: P505309    Prep Batch #...: 5056244  
Dilution Factor: 25  
% Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.62	mg/L
Carbon tetrachloride	ND	0.62	mg/L
Chlorobenzene	ND	0.62	mg/L
Chloroform	ND	0.62	mg/L
1,2-Dichloroethane	ND	0.62	mg/L
1,1-Dichloroethylene	ND	1.8	mg/L
Methyl ethyl ketone	ND	1.2	mg/L
Tetrachloroethylene	ND	1.8	mg/L
Trichloroethylene	ND	1.2	mg/L
Vinyl chloride	ND	0.62	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	99	(86 - 125)
1,2-Dichloroethane-d4	98	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	90	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-039

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B190136-024    Work Order #...: G4RKG1AD    Matrix.....: SO  
 Date Sampled...: 02/18/05 13:35    Date Received...: 02/19/05  
 Leach Date.....: 02/22/05    Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Leach Batch #...: P505305    Prep Batch #...: 5054043  
 Dilution Factor: 6.66  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	0.48	0.33	mg/L
m-Cresol & p-Cresol	1.2	0.67	mg/L
1,4-Dichlorobenzene	ND	0.33	mg/L
2,4-Dinitrotoluene	ND	0.33	mg/L
Hexachlorobenzene	ND	0.33	mg/L
Hexachlorobutadiene	ND	0.33	mg/L
Hexachloroethane	ND	0.33	mg/L
Nitrobenzene	ND	0.33	mg/L
Pentachlorophenol	ND	0.67	mg/L
Pyridine	ND	0.67	mg/L
2,4,5-Trichloro-phenol	ND	1.7	mg/L
2,4,6-Trichloro-phenol	ND	0.33	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70 DIL	(32 - 112)
2-Fluorobiphenyl	76 DIL	(30 - 110)
Terphenyl-d14	84 DIL	(10 - 144)
Phenol-d5	77 DIL	(10 - 113)
2-Fluorophenol	48 DIL	(13 - 110)
2,4,6-Tribromophenol	69 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-021805-PP-039

TCLP Metals

Lot-Sample #...: A5B190136-024

Matrix.....: SO

Date Sampled...: 02/18/05 13:35 Date Received...: 02/19/05

Leach Date.....: 02/22/05 Leach Batch #...: P505305

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5055026

Arsenic	0.92	0.50	mg/L	SW846 6010B	02/24-02/28/05	G4RKG1AE
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Dilution Factor: 1

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B190136      Work Order #...: G45M31AD      Matrix.....: SOLID  
MB Lot-Sample #: A5B250000-244  
Leach Date.....: 02/22/05      Prep Date.....: 02/24/05      Analysis Date..: 02/24/05  
Leach Batch #..: P505309      Prep Batch #...: 5056244  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	99	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
Toluene-d8	99	(90 - 122)
4-Bromofluorobenzene	89	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136  
MB Lot-Sample #: A5B200000-052

Work Order #...: G4R461AA

Matrix.....: SOLID

Prep Date.....: 02/20/05

Analysis Date..: 02/23/05

Prep Batch #...: 5051052

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	(42 - 110)
2-Fluorobiphenyl	84	(43 - 110)
Terphenyl-d14	104	(37 - 137)
Phenol-d5	87	(25 - 115)
2-Fluorophenol	87	(11 - 116)
2,4,6-Tribromophenol	90	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136  
MB Lot-Sample #: A5B200000-053

Work Order #...: G4R391AA

Matrix.....: SOLID

Prep Date.....: 02/20/05

Analysis Date..: 02/25/05

Prep Batch #...: 5051053

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	( 42 - 110)
2-Fluorobiphenyl	80	( 43 - 110)
Terphenyl-d14	103	( 37 - 137)
Phenol-d5	82	( 25 - 115)
2-Fluorophenol	83	( 11 - 116)
2,4,6-Tribromophenol	72	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136  
MB Lot-Sample #: A5B200000-056

Work Order #...: G4R4A1AA

Matrix.....: WATER

Prep Date.....: 02/20/05

Analysis Date..: 02/22/05

Prep Batch #...: 5051056

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	59	( 32 - 112)
2-Fluorobiphenyl	53	( 30 - 110)
Terphenyl-d14	74	( 10 - 144)
Phenol-d5	55	( 10 - 113)
2-Fluorophenol	57	( 13 - 110)
2,4,6-Tribromophenol	64	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136  
MB Lot-Sample #: A5B240000-222

Work Order #...: G43D71AA

Matrix.....: SOLID

Prep Date.....: 02/24/05

Analysis Date..: 02/25/05

Prep Batch #...: 5055222

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70	( 42 - 110)
2-Fluorobiphenyl	62	( 43 - 110)
Terphenyl-d14	78	( 37 - 137)
Phenol-d5	70	( 25 - 115)
2-Fluorophenol	67	( 11 - 116)
2,4,6-Tribromophenol	73	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B190136  
 MB Lot-Sample #: A5B230000-043  
 Leach Date.....: 02/22/05  
 Leach Batch #...: P505305  
 Dilution Factor: 1

Work Order #...: G4X3E1AA  
 Prep Date.....: 02/23/05  
 Prep Batch #...: 5054043

Matrix.....: SOLID  
 Analysis Date...: 02/28/05

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	80	( 32 - 112)
2-Fluorobiphenyl	73	( 30 - 110)
Terphenyl-d14	94	( 10 - 144)
Phenol-d5	67	( 10 - 113)
2-Fluorophenol	48	( 13 - 110)
2,4,6-Tribromophenol	91	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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**MB Lot-Sample #:** A5B220000-025 **Prep Batch #...**: 5053025  
Arsenic ND 0.010 mg/L SW846 6010B 02/22-02/24/05 G4VQ41CT  
Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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**MB Lot-Sample #:** A5B220000-029 **Prep Batch #...:** 5053029  
Arsenic ND 1.0 mg/kg SW846 6010B 02/22-02/24/05 G4VRC1AA  
Dilution Factor: 1

**MB Lot-Sample #:** A5B230000-031 **Prep Batch #...:** 5054031  
Arsenic ND 1.0 mg/kg SW846 6010B 02/23-02/24/05 G4X2T1AC  
Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B220000-304		<b>Prep Batch #...</b> : 5055026				
<b>Leach Date.....</b> : 02/22/05		<b>Leach Batch #...</b> : P505305				
Arsenic	ND	0.50	mg/L	SW846 6010B	02/24-02/28/05	G4W241AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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MB Lot-Sample #: A5B240000-026 Prep Batch #...: 5055026

Arsenic	ND	0.50	mg/L	SW846 6010B	02/24-02/28/05	G42GW1AA
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Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G4VCL1AA 10.0	%	MB Lot-Sample #: A5B210000-380 MCAWW 160.3 MOD	A5B210000-380 02/21-02/22/05	5052380
		Dilution Factor: 1				
Percent Solids	ND	Work Order #: G4VCP1AA 10.0	%	MB Lot-Sample #: A5B210000-383 MCAWW 160.3 MOD	A5B210000-383 02/21-02/22/05	5052383
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B190136      Work Order #...: G45M31AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B250000-244      G45M31AC-LCSD  
 Prep Date.....: 02/24/05      Analysis Date...: 02/24/05  
 Prep Batch #...: 5056244  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	100	(76 - 118)			SW846 8260B
	101	(76 - 118)	1.1	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	94	(76 - 113)			SW846 8260B
	91	(76 - 113)	2.7	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	102	(67 - 128)			SW846 8260B
	101	(67 - 128)	1.5	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	100	(76 - 119)			SW846 8260B
	99	(76 - 119)	0.65	(0-20)	SW846 8260B
<b>Toluene</b>	90	(72 - 117)			SW846 8260B
	89	(72 - 117)	1.6	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(86 - 124)
	99	(86 - 124)
1,2-Dichloroethane-d4	97	(80 - 122)
	98	(80 - 122)
Toluene-d8	101	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	96	(84 - 125)
	96	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4R461AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B200000-052      G4R461AD-LCSD  
 Prep Date.....: 02/20/05      Analysis Date...: 02/23/05  
 Prep Batch #...: 5051052  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	74	(45 - 110)			SW846 8270C
	92	(45 - 110)	22	(0-54)	SW846 8270C
Acenaphthene	83	(44 - 110)			SW846 8270C
	89	(44 - 110)	8.0	(0-44)	SW846 8270C
2,4-Dinitrotoluene	96	(48 - 111)			SW846 8270C
	98	(48 - 111)	2.6	(0-45)	SW846 8270C
Pyrene	94	(42 - 122)			SW846 8270C
	95	(42 - 122)	1.4	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	83	(38 - 110)			SW846 8270C
	92	(38 - 110)	10	(0-50)	SW846 8270C
1,4-Dichlorobenzene	79	(38 - 110)			SW846 8270C
	101	(38 - 110)	24	(0-59)	SW846 8270C
Pentachlorophenol	73	(10 - 123)			SW846 8270C
	70	(10 - 123)	4.7	(0-87)	SW846 8270C
Phenol	81	(35 - 110)			SW846 8270C
	88	(35 - 110)	8.4	(0-50)	SW846 8270C
2-Chlorophenol	77	(43 - 110)			SW846 8270C
	87	(43 - 110)	12	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	81	(43 - 110)			SW846 8270C
	85	(43 - 110)	5.9	(0-55)	SW846 8270C
4-Nitrophenol	80	(22 - 128)			SW846 8270C
	80	(22 - 128)	1.0	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	72	(42 - 110)
	87	(42 - 110)
2-Fluorobiphenyl	77	(43 - 110)
	85	(43 - 110)
Terphenyl-d14	91	(37 - 137)
	91	(37 - 137)
Phenol-d5	78	(25 - 115)
	85	(25 - 115)
2-Fluorophenol	73	(11 - 116)
	85	(11 - 116)
2,4,6-Tribromophenol	86	(35 - 116)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4R461AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B200000-052      G4R461AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	84	(35 - 116)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4R391AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B200000-053  
 Prep Date.....: 02/20/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	79	(45 - 110)	SW846 8270C
Acenaphthene	79	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	92	(48 - 111)	SW846 8270C
Pyrene	92	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	92	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	105	(38 - 110)	SW846 8270C
Pentachlorophenol	79	(10 - 123)	SW846 8270C
Phenol	81	(35 - 110)	SW846 8270C
2-Chlorophenol	80	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	81	(43 - 110)	SW846 8270C
4-Nitrophenol	76	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	85	(42 - 110)
2-Fluorobiphenyl	80	(43 - 110)
Terphenyl-d14	98	(37 - 137)
Phenol-d5	85	(25 - 115)
2-Fluorophenol	90	(11 - 116)
2,4,6-Tribromophenol	85	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4R4A1AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5B200000-056  
 Prep Date.....: 02/20/05      Analysis Date...: 02/22/05  
 Prep Batch #...: 5051056  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	57	(31 - 110)	SW846 8270C
Acenaphthene	70	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	80	(47 - 131)	SW846 8270C
Pyrene	76	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl- amine	80	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	56	(28 - 110)	SW846 8270C
Pentachlorophenol	75	(10 - 140)	SW846 8270C
Phenol	69	(10 - 131)	SW846 8270C
2-Chlorophenol	70	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	70	(29 - 124)	SW846 8270C
4-Nitrophenol	66	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	66	(30 - 110)
Terphenyl-d14	77	(10 - 144)
Phenol-d5	68	(10 - 113)
2-Fluorophenol	68	(13 - 110)
2,4,6-Tribromophenol	78	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G43D71AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B240000-222  
 Prep Date.....: 02/24/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5055222  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	65	(45 - 110)	SW846 8270C
Acenaphthene	69	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	84	(48 - 111)	SW846 8270C
Pyrene	84	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	71	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	74	(38 - 110)	SW846 8270C
Pentachlorophenol	83	(10 - 123)	SW846 8270C
Phenol	65	(35 - 110)	SW846 8270C
2-Chlorophenol	64	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	73	(43 - 110)	SW846 8270C
4-Nitrophenol	77	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	65	(42 - 110)
2-Fluorobiphenyl	62	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	66	(25 - 115)
2-Fluorophenol	63	(11 - 116)
2,4,6-Tribromophenol	83	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4X3E1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B230000-043      G4X3E1AD-LCSD  
 Prep Date.....: 02/23/05      Analysis Date...: 02/28/05  
 Prep Batch #...: 5054043  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	87	(33 - 115)			SW846 8270C
	87	(33 - 115)	0.60	(0-31)	SW846 8270C
m-Cresol & p-Cresol	89	(46 - 109)			SW846 8270C
	89	(46 - 109)	0.56	(0-32)	SW846 8270C
1,4-Dichlorobenzene	88	(28 - 110)			SW846 8270C
	82	(28 - 110)	6.6	(0-36)	SW846 8270C
2,4-Dinitrotoluene	100	(47 - 131)			SW846 8270C
	104	(47 - 131)	3.9	(0-32)	SW846 8270C
Hexachlorobenzene	98	(57 - 128)			SW846 8270C
	98	(57 - 128)	0.20	(0-22)	SW846 8270C
Hexachlorobutadiene	67	(36 - 116)			SW846 8270C
	62	(36 - 116)	7.5	(0-32)	SW846 8270C
Hexachloroethane	71	(30 - 110)			SW846 8270C
	63	(30 - 110)	12	(0-33)	SW846 8270C
Nitrobenzene	97	(45 - 130)			SW846 8270C
	92	(45 - 130)	5.2	(0-50)	SW846 8270C
Pentachlorophenol	95	(10 - 140)			SW846 8270C
	93	(10 - 140)	1.4	(0-56)	SW846 8270C
Pyridine	85	(10 - 148)			SW846 8270C
	80	(10 - 148)	5.9	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	92	(41 - 125)			SW846 8270C
	92	(41 - 125)	0.040	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	88	(46 - 135)			SW846 8270C
	88	(46 - 135)	0.17	(0-27)	SW846 8270C
Cresols (total)	89	(46 - 109)			SW846 8270C
	88	(46 - 109)	0.57	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	88	(32 - 112)
	86	(32 - 112)
2-Fluorobiphenyl	82	(30 - 110)
	79	(30 - 110)
Terphenyl-d14	95	(10 - 144)
	96	(10 - 144)
Phenol-d5	75	(10 - 113)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4X3E1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B230000-043      G4X3E1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	74	(10 - 113)
2-Fluorophenol	40	(13 - 110)
	46	(13 - 110)
2,4,6-Tribromophenol	93	(21 - 122)
	94	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B220000-025 Prep Batch #...: 5053025

Arsenic	93	(80 - 120)	SW846 6010B	02/22-02/24/05	G4VQ41DQ
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B220000-029 Prep Batch #...: 5053029

Arsenic	86	(80 - 120)	SW846 6010B	02/22-02/24/05	G4VRC1AC
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Dilution Factor: 1

LCS Lot-Sample#: A5B230000-031 Prep Batch #...: 5054031

Arsenic	89	(80 - 120)	SW846 6010B	02/23-02/24/05	G4X2T1A6
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B240000-026 Prep Batch #...: 5055026

Arsenic 107 (50 - 150) SW846 6010B 02/24-02/28/05 G42GW1AK

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B190136      Work Order #...: G4G4C1AD-MS      Matrix.....: SOLID  
 MS Lot-Sample #: G5B150382-001      G4G4C1AE-MSD  
 Date Sampled...: 02/10/05 15:50      Date Received...: 02/15/05  
 Leach Date.....: 02/22/05      Prep Date.....: 02/24/05      Analysis Date...: 02/24/05  
 Leach Batch #...: P505309      Prep Batch #...: 5056244  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	103	(76 - 117)			<b>SW846 8260B</b>
	101	(76 - 117)	1.1	(0-30)	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	95	(72 - 114)			<b>SW846 8260B</b>
	95	(72 - 114)	0.22	(0-30)	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	98	(67 - 129)			<b>SW846 8260B</b>
	104	(67 - 129)	5.1	(0-30)	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	101	(72 - 121)			<b>SW846 8260B</b>
	100	(72 - 121)	1.3	(0-30)	<b>SW846 8260B</b>
<b>Toluene</b>	92	(67 - 113)			<b>SW846 8260B</b>
	93	(67 - 113)	0.80	(0-30)	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(86 - 125)
	101	(86 - 125)
1,2-Dichloroethane-d4	98	(80 - 122)
	97	(80 - 122)
Toluene-d8	103	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	94	(84 - 125)
	96	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4RJX1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B190136-011      G4RJX1AH-MSD  
 Date Sampled...: 02/18/05 11:20      Date Received...: 02/19/05  
 Prep Date.....: 02/20/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5051053  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	82	(16 - 121)			SW846 8270C
	77	(16 - 121)	6.3	(0-54)	SW846 8270C
Acenaphthene	80	(13 - 133)			SW846 8270C
	82	(13 - 133)	2.2	(0-44)	SW846 8270C
2,4-Dinitrotoluene	91	(10 - 171)			SW846 8270C
	89	(10 - 171)	2.1	(0-45)	SW846 8270C
Pyrene	87	(10 - 218)			SW846 8270C
	96	(10 - 218)	9.4	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	82	(12 - 128)			SW846 8270C
	82	(12 - 128)	0.65	(0-50)	SW846 8270C
1,4-Dichlorobenzene	98	(18 - 110)			SW846 8270C
	96	(18 - 110)	1.7	(0-59)	SW846 8270C
Pentachlorophenol	68	(10 - 144)			SW846 8270C
	34	(10 - 144)	67	(0-87)	SW846 8270C
Phenol	77	(10 - 148)			SW846 8270C
	79	(10 - 148)	1.8	(0-50)	SW846 8270C
2-Chlorophenol	80	(17 - 116)			SW846 8270C
	80	(17 - 116)	1.2	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	83	(17 - 128)			SW846 8270C
	83	(17 - 128)	0.29	(0-55)	SW846 8270C
4-Nitrophenol	76	(10 - 148)			SW846 8270C
	80	(10 - 148)	5.1	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	87	(42 - 110)
	81	(42 - 110)
2-Fluorobiphenyl	80	(43 - 110)
	76	(43 - 110)
Terphenyl-d14	92	(37 - 137)
	93	(37 - 137)
Phenol-d5	81	(25 - 115)
	80	(25 - 115)
2-Fluorophenol	84	(11 - 116)
	78	(11 - 116)

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MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4RJX1AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5B190136-011      G4RJX1AH-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	85	(35 - 116)
	78	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4RGT1CP-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5B190116-008      G4RGT1CQ-MSD  
 Date Sampled...: 02/18/05 11:00      Date Received...: 02/19/05  
 Prep Date.....: 02/20/05      Analysis Date...: 02/22/05  
 Prep Batch #...: 5051056  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	59	(22 - 110)			SW846 8270C
	54	(22 - 110)	7.8	(0-37)	SW846 8270C
Acenaphthene	70	(26 - 118)			SW846 8270C
	67	(26 - 118)	3.8	(0-35)	SW846 8270C
2,4-Dinitrotoluene	80	(31 - 131)			SW846 8270C
	80	(31 - 131)	0.90	(0-32)	SW846 8270C
Pyrene	76	(27 - 138)			SW846 8270C
	75	(27 - 138)	2.2	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl-amine	79	(18 - 115)			SW846 8270C
	73	(18 - 115)	7.8	(0-36)	SW846 8270C
1,4-Dichlorobenzene	62	(18 - 110)			SW846 8270C
	56	(18 - 110)	9.5	(0-36)	SW846 8270C
Pentachlorophenol	81	(10 - 140)			SW846 8270C
	82	(10 - 140)	0.77	(0-56)	SW846 8270C
Phenol	67	(10 - 131)			SW846 8270C
	62	(10 - 131)	7.8	(0-43)	SW846 8270C
2-Chlorophenol	69	(19 - 124)			SW846 8270C
	63	(19 - 124)	9.2	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	71	(21 - 124)			SW846 8270C
	69	(21 - 124)	2.3	(0-55)	SW846 8270C
4-Nitrophenol	72	(10 - 145)			SW846 8270C
	66	(10 - 145)	8.3	(0-34)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	70	(32 - 112)
	68	(32 - 112)
2-Fluorobiphenyl	69	(30 - 110)
	64	(30 - 110)
Terphenyl-d14	78	(10 - 144)
	76	(10 - 144)
Phenol-d5	67	(10 - 113)
	59	(10 - 113)
2-Fluorophenol	70	(13 - 110)
	62	(13 - 110)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G4RGT1CP-MS      Matrix.....: WATER  
MS Lot-Sample #: A5B190116-008      G4RGT1CQ-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	79	(21 - 122)
	76	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B190136      Work Order #...: G42XK1A7-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5B240148-001      G42XK1A8-MSD  
 Date Sampled...: 02/23/05 15:45      Date Received...: 02/24/05  
 Prep Date.....: 02/24/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5055222  
 Dilution Factor: 1      % Moisture.....: 15

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Acenaphthene</b>	<b>68</b>	<b>(13 - 133)</b>			<b>SW846 8270C</b>
	<b>67</b>	<b>(13 - 133)</b>	<b>2.3</b>	<b>(0-44)</b>	<b>SW846 8270C</b>
<b>2,4-Dinitrotoluene</b>	<b>77</b>	<b>(10 - 171)</b>			<b>SW846 8270C</b>
	<b>78</b>	<b>(10 - 171)</b>	<b>0.90</b>	<b>(0-45)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>78</b>	<b>(10 - 218)</b>			<b>SW846 8270C</b>
	<b>78</b>	<b>(10 - 218)</b>	<b>0.29</b>	<b>(0-66)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl-amine</b>	<b>66</b>	<b>(12 - 128)</b>			<b>SW846 8270C</b>
	<b>67</b>	<b>(12 - 128)</b>	<b>0.73</b>	<b>(0-50)</b>	<b>SW846 8270C</b>
<b>Pentachlorophenol</b>	<b>74</b>	<b>(10 - 144)</b>			<b>SW846 8270C</b>
	<b>72</b>	<b>(10 - 144)</b>	<b>3.1</b>	<b>(0-87)</b>	<b>SW846 8270C</b>
<b>Phenol</b>	<b>65</b>	<b>(10 - 148)</b>			<b>SW846 8270C</b>
	<b>64</b>	<b>(10 - 148)</b>	<b>2.2</b>	<b>(0-50)</b>	<b>SW846 8270C</b>
<b>2-Chlorophenol</b>	<b>56</b>	<b>(17 - 116)</b>			<b>SW846 8270C</b>
	<b>58</b>	<b>(17 - 116)</b>	<b>2.8</b>	<b>(0-54)</b>	<b>SW846 8270C</b>
<b>4-Chloro-3-methylphenol</b>	<b>71</b>	<b>(17 - 128)</b>			<b>SW846 8270C</b>
	<b>69</b>	<b>(17 - 128)</b>	<b>3.2</b>	<b>(0-55)</b>	<b>SW846 8270C</b>
<b>4-Nitrophenol</b>	<b>62</b>	<b>(10 - 148)</b>			<b>SW846 8270C</b>
	<b>64</b>	<b>(10 - 148)</b>	<b>3.6</b>	<b>(0-64)</b>	<b>SW846 8270C</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	53	(42 - 110)
	59	(42 - 110)
2-Fluorobiphenyl	63	(43 - 110)
	60	(43 - 110)
Terphenyl-d14	78	(37 - 137)
	77	(37 - 137)
Phenol-d5	61	(25 - 115)
	60	(25 - 115)
2-Fluorophenol	50	(11 - 116)
	55	(11 - 116)
2,4,6-Tribromophenol	71	(35 - 116)
	69	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters  
 Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: WATER

Date Sampled...: 02/17/05 08:30 Date Received...: 02/17/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B180107-002 Prep Batch #...: 5053025

Arsenic	95	(75 - 125)			SW846 6010B	02/22-02/24/05	G4NQ91ED
	90	(75 - 125)	5.1	(0-20)	SW846 6010B	02/22-02/24/05	G4NQ91EE

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: SO

Date Sampled...: 02/18/05 11:20 Date Received...: 02/19/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B190136-011 Prep Batch #...: 5053029

Arsenic	87	(75 - 125)			SW846 6010B	02/22-02/24/05	G4RJX1AD
	82	(75 - 125)	5.6	(0-20)	SW846 6010B	02/22-02/24/05	G4RJX1AE

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

Date Sampled...: 02/17/05 09:05 Date Received...: 02/18/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B180295-001 Prep Batch #...: 5054031

% Moisture.....: 11

Arsenic	85	(75 - 125)			SW846 6010B	02/23-02/24/05	G4QA41C6
	89	(75 - 125)	5.1	(0-20)	SW846 6010B	02/23-02/24/05	G4QA41C7

Dilution Factor: 10

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

Date Sampled...: 02/16/05 10:03 Date Received...: 02/17/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B180359-001 Prep Batch #...: 5054031

% Moisture.....: 7.2

Arsenic	83	(75 - 125)			SW846 6010B	02/23-02/28/05	G4QNJ1C8
	81	(75 - 125)	2.9	(0-20)	SW846 6010B	02/23-02/28/05	G4QNJ1C9

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B190136

Matrix.....: SOLID

Date Sampled...: 02/15/05 10:15 Date Received...: 02/18/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B180131-003 Prep Batch #...: 5055026

Leach Date.....: 02/22/05 Leach Batch #...: P505305

Arsenic	110	(50 - 150)			SW846 6010B	02/24-02/28/05	G4N1W1A2
	109	(50 - 150)	0.83	(0-20)	SW846 6010B	02/24-02/28/05	G4N1W1A3

Dilution Factor: 5

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B190136

Work Order #...: G4QMT-SMP  
G4QMT-DUP

Matrix.....: SOLID

Date Sampled...: 02/16/05 11:00 Date Received...: 02/18/05

% Moisture.....: 0.0

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>				<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids							SD Lot-Sample #: A5B180356-001		
100		100	%	0.0	(0-20)	MCAWW 160.3 MOD		02/21-02/22/05	5052380

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B190136

Work Order #...: G4RFD-SMP  
G4RFD-DUP

Matrix.....: SOLID

Date Sampled...: 02/17/05 08:30 Date Received...: 02/19/05

% Moisture.....: 17

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	83.2	85.0	%	2.1	(0-20)	SD Lot-Sample #: A5B190111-008 MCAWW 160.3 MOD	02/21-02/22/05	5052380

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B190136

Work Order #...: G4RJJ-SMP  
G4RJJ-DUP

Matrix.....: SO

Date Sampled...: 02/18/05 10:45 Date Received...: 02/19/05

% Moisture.....: 30

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>						<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	70.1	69.2	%	1.3	(0-20)	MCAWW 160.3 MOD	SD Lot-Sample #: A5B190136-002	02/21-02/22/05	5052383

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B190136

Work Order #...: G4RJX-SMP  
G4RJX-DUP

Matrix.....: SO

Date Sampled...: 02/18/05 11:20 Date Received...: 02/19/05

% Moisture.....: 13

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>				<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	87.0	87.3	%	0.38	(0-20)	MCAWW 160.3 MOD	SD Lot-Sample #: A5B190136-011	02/21-02/22/05	5052383

Dilution Factor: 1



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Whalegan MGP Colle Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
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	2/18/05	13:23	S-021805-PP-037	Soil	2	XX X	2-20
	2/18/05	10:45	S-021805-PP-207	Soil	2	XX X	
	2/18/05	10:50	S-021805-PP-208	Soil	2	XX X	
	2/18/05	10:53	S-021805-PP-209	Soil	2	XX X	
	2/18/05	10:57	S-021805-PP-210	Soil	2	XX X	
	2/18/05	11:02	S-021805-PP-211	Soil	2	XX X	
	2/18/05	11:05	S-021805-PP-212	Soil	2	XX X	
	2/18/05	11:10	S-021805-PP-213	Soil	2	XX X	
	2/18/05	11:14	S-021805-PP-214	Soil	2	XX X	
	2/18/05	11:15	S-021805-PP-215	Soil	2	XX X	
	2/18/05	11:20	S-021805-PP-216	Soil	2	XX X	
	2/18/05	11:25	S-021805-PP-217	Soil	2	XX X	
	2/18/05	11:28	S-021805-PP-218	Soil	2	XX X	
	2/18/05	11:33	S-021805-PP-219	Soil	2	XX X	
	2/18/05	11:38	S-021805-PP-220	Soil	2	XX X	
TOTAL NUMBER OF CONTAINERS					17		

RELINQUISHED BY: *[Signature]* DATE: 2-18-05 RECEIVED BY: DATE: TIME: 15:00

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME: ③

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME: ④

METHOD OF SHIPMENT: FEDEX AIR BILL No. 8490 1342 6714

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: P. PATHAK  
RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 2/19/05 TIME: 0940



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan MGP Cole Site

REMARKS

REMARKS

REMARKS

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Pitersh Pathall*

SEQ. NO.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
						Total Alkalinity	
						Site Specific TCLP VOC	
						TCLP VOC	
						TCLP VOC	
						TCLP VOC	

	2/18/05	11:42	S-021805-PP-	Soil	2	X		
	2/18/05	11:45	S-021805-PP-	Soil	2	X		
	2/18/05	11:50	S-021805-PP-	Soil	2	X		
	2/18/05	11:53	S-021805-PP-	Soil	2	X		
	2/18/05	12:38	S-021805-PP-	Soil	2	X		
	2/18/05	11:47	S-021805-PP-	Soil	2	X		
	2/18/05	12:45	S-021805-PP-	Soil	2	X		
	2/18/05	13:05	W-021805-PP-	Water	3	X		
	2/18/05	13:35	S-021805-PP-	Soil	2	X		

TOTAL NUMBER OF CONTAINERS: 12

RELINQUISHED BY: <i>[Signature]</i>	DATE: 2/18/05	TIME: 15:00	RECEIVED BY: <i>[Signature]</i>	DATE: 2/18/05	TIME: 15:00
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:

METHOD OF SHIPMENT: FEDEX AIR BILL No. 8490 1342 6714

White	-Fully Executed Copy	SAMPLE TEAM: P. PATHALL	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>	DATE: 2/19/05	TIME: 0940
Yellow	-Receiving Laboratory Copy				
Pink	-Shipper Copy				
Goldenrod	-Sampler Copy				

**STL Cooler Receipt Form/Narrative**

Lot Number: AB319030

**North Canton Facility**

Client: CRA Project: Waukegan MOP Quote#: Q48891  
 Cooler Received on: 2/19/05 Opened on: 2/19/05 by: A. Am  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other:   
 STL Cooler No# Y893 Foam Box  Client Cooler  Other

- Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  - Shipper's packing slip attached to this form? Yes  No  NA
  - Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  - Did you sign the custody papers in the appropriate place? Yes  No
  - Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  - Cooler temperature upon receipt 4.3°C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
- Did all bottles arrive in good condition (Unbroken)? Yes  No  *see below*
  - Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  - Were samples at the correct pH? (record below/on back) Yes  No  NA
  - Were correct bottles used for the tests indicated? Yes  No  NA
  - Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  - Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
Replaced lid for sample 213, <sup>Li</sup> not brown. (Am)

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials
<u>W-021805-PP-</u>	<u>&lt; 2</u>	<u>2/19/05</u>	<u>Am</u>

***END OF REPORT***

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

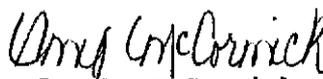
**WAUKEGAN MGP COKE SITE**

**Lot #: A5B230160**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

  
**Amy L. McCormick**  
Project Manager

**March 7, 2005**

## **CASE NARRATIVE**

A5B230160

The following report contains the analytical results for eleven solid samples and two water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received February 23, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 4, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 2.6°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-022205-PP-041 and S-022205-PP-043 had elevated reporting limits due to TICs.

The matrix spike/matrix spike duplicate(s) for batch(es) 5061141 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-022205-PP-231 due to high analyte concentrations.

The matrix spike/matrix spike duplicate(s) for S-022205-PP-236 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

Sample(s) S-022205-PP-041, S-022205-PP-043, S-022205-PP-228, S-022205-PP-232, S-022205-PP-233, and S-022205-PP-234 had elevated reporting limits due to matrix interference.

### **METALS**

The matrix spike/matrix spike duplicate(s) for S-022205-PP-236, batch 5056035, had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

The matrix spike/matrix spike duplicate(s) for batch(es) 5056035, sample A5B230171-001, had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5B230160

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-022205-PP-228 02/22/05 11:12 004</b>				
Arsenic	4.5	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	790	710	ug/kg	SW846 8270C
Percent Solids	92.5	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-229 02/22/05 11:15 005</b>				
Arsenic	1.1	1.1	mg/kg	SW846 6010B
Percent Solids	90.6	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-230 02/22/05 11:18 006</b>				
Arsenic	11.0	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	14000	7200	ug/kg	SW846 8270C
Benzo(a)pyrene	9700	7200	ug/kg	SW846 8270C
Naphthalene	17000	7200	ug/kg	SW846 8270C
Benzo(a)anthracene	13000	7200	ug/kg	SW846 8270C
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-231 02/22/05 11:22 007</b>				
Arsenic	5.0	1.1	mg/kg	SW846 6010B
Dibenzofuran	70000	18000	ug/kg	SW846 8270C
Naphthalene	530000 E	18000	ug/kg	SW846 8270C
Naphthalene	2400000	890000	ug/kg	SW846 8270C
Percent Solids	92.8	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-232 02/22/05 11:28 008</b>				
Arsenic	109	1.2	mg/kg	SW846 6010B
Naphthalene	6100	4000	ug/kg	SW846 8270C
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-233 02/22/05 11:31 009</b>				
Arsenic	257	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	29000	20000	ug/kg	SW846 8270C
Benzo(a)pyrene	22000	20000	ug/kg	SW846 8270C
Benzo(a)anthracene	30000	20000	ug/kg	SW846 8270C
Percent Solids	80.9	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5B230160

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-022205-PP-234 02/22/05 11:33 010</b>				
Arsenic	14.7	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2200	1700	ug/kg	SW846 8270C
Percent Solids	75.8	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-235 02/22/05 11:34 011</b>				
Arsenic	66.5	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1900	860	ug/kg	SW846 8270C
Benzo(a)pyrene	1000	860	ug/kg	SW846 8270C
Benzo(a)anthracene	1300	860	ug/kg	SW846 8270C
Percent Solids	77.1	10.0	%	MCAWW 160.3 MOD
<b>S-022205-PP-236 02/22/05 11:37 012</b>				
Arsenic	241	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	8500	5100	ug/kg	SW846 8270C
Benzo(a)pyrene	6700	5100	ug/kg	SW846 8270C
Benzo(a)anthracene	9000	5100	ug/kg	SW846 8270C
Percent Solids	81.6	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5B230160

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B230160

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G40J7	001	S-022205-PP-041	02/22/05	12:35
G40KD	002	S-022205-PP-043	02/22/05	12:40
G40KF	003	W-022205-PP-506	02/22/05	12:55
G40KN	004	S-022205-PP-228	02/22/05	11:12
G400T	005	S-022205-PP-229	02/22/05	11:15
G4000	006	S-022205-PP-230	02/22/05	11:18
G4001	007	S-022205-PP-231	02/22/05	11:22
G4003	008	S-022205-PP-232	02/22/05	11:28
G4005	009	S-022205-PP-233	02/22/05	11:31
G4008	010	S-022205-PP-234	02/22/05	11:33
G401C	011	S-022205-PP-235	02/22/05	11:34
G401E	012	S-022205-PP-236	02/22/05	11:37
G401J	013	S-022205-PP-507	02/22/05	12:15

## NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-041

TCLP GC/MS Volatiles

Lot-Sample #...: A5B230160-001    Work Order #...: G40J71AA    Matrix.....: SO  
 Date Sampled...: 02/22/05 12:35    Date Received...: 02/23/05  
 Leach Date.....: 02/28/05    Prep Date.....: 03/02/05    Analysis Date...: 03/02/05  
 Leach Batch #..: P505905    Prep Batch #...: 5062190  
 Dilution Factor: 10  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.25	mg/L
Carbon tetrachloride	ND	0.25	mg/L
Chlorobenzene	ND	0.25	mg/L
Chloroform	ND	0.25	mg/L
1,2-Dichloroethane	ND	0.25	mg/L
1,1-Dichloroethylene	ND	0.70	mg/L
Methyl ethyl ketone	ND	0.50	mg/L
Tetrachloroethylene	ND	0.70	mg/L
Trichloroethylene	ND	0.50	mg/L
Vinyl chloride	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	88	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-041

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B230160-001    Work Order #...: G40J71AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 12:35    Date Received...: 02/23/05  
 Leach Date.....: 02/28/05    Prep Date.....: 03/01/05    Analysis Date...: 03/02/05  
 Leach Batch #...: P505902    Prep Batch #...: 5059416  
 Dilution Factor: 5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.25	mg/L
m-Cresol & p-Cresol	ND	0.50	mg/L
1,4-Dichlorobenzene	ND	0.25	mg/L
2,4-Dinitrotoluene	ND	0.25	mg/L
Hexachlorobenzene	ND	0.25	mg/L
Hexachlorobutadiene	ND	0.25	mg/L
Hexachloroethane	ND	0.25	mg/L
Nitrobenzene	ND	0.25	mg/L
Pentachlorophenol	ND	0.50	mg/L
Pyridine	ND	0.50	mg/L
2,4,5-Trichloro-phenol	ND	1.2	mg/L
2,4,6-Trichloro-phenol	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74 DIL	(32 - 112)
2-Fluorobiphenyl	73 DIL	(30 - 110)
Terphenyl-d14	91 DIL	(10 - 144)
Phenol-d5	10 DIL	(10 - 113)
2-Fluorophenol	7.4 DIL, *	(13 - 110)
2,4,6-Tribromophenol	8.0 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-041

TCLP Metals

Lot-Sample #...: A5B230160-001

Matrix.....: SO

Date Sampled...: 02/22/05 12:35 Date Received...: 02/23/05

Leach Date.....: 02/28/05 Leach Batch #...: P505902

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5061031						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/02/05	G40J71AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-043

TCLP GC/MS Volatiles

Lot-Sample #...: A5B230160-002    Work Order #...: G40KD1AA    Matrix.....: SO  
 Date Sampled...: 02/22/05 12:40    Date Received...: 02/23/05  
 Leach Date.....: 02/28/05    Prep Date.....: 03/02/05    Analysis Date...: 03/02/05  
 Leach Batch #..: P505905    Prep Batch #...: 5062190  
 Dilution Factor: 10  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.25	mg/L
Carbon tetrachloride	ND	0.25	mg/L
Chlorobenzene	ND	0.25	mg/L
Chloroform	ND	0.25	mg/L
1,2-Dichloroethane	ND	0.25	mg/L
1,1-Dichloroethylene	ND	0.70	mg/L
Methyl ethyl ketone	ND	0.50	mg/L
Tetrachloroethylene	ND	0.70	mg/L
Trichloroethylene	ND	0.50	mg/L
Vinyl chloride	ND	0.25	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-043

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B230160-002    Work Order #...: G40KD1AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 12:40    Date Received..: 02/23/05  
 Leach Date.....: 02/28/05    Prep Date.....: 03/01/05    Analysis Date..: 03/02/05  
 Leach Batch #..: P505902    Prep Batch #...: 5059416  
 Dilution Factor: 4  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.20	mg/L
m-Cresol & p-Cresol	ND	0.40	mg/L
1,4-Dichlorobenzene	ND	0.20	mg/L
2,4-Dinitrotoluene	ND	0.20	mg/L
Hexachlorobenzene	ND	0.20	mg/L
Hexachlorobutadiene	ND	0.20	mg/L
Hexachloroethane	ND	0.20	mg/L
Nitrobenzene	ND	0.20	mg/L
Pentachlorophenol	ND	0.40	mg/L
Pyridine	ND	0.40	mg/L
2,4,5-Trichloro-phenol	ND	1.0	mg/L
2,4,6-Trichloro-phenol	ND	0.20	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74 DIL	(32 - 112)
2-Fluorobiphenyl	75 DIL	(30 - 110)
Terphenyl-d14	95 DIL	(10 - 144)
Phenol-d5	39 DIL	(10 - 113)
2-Fluorophenol	27 DIL	(13 - 110)
2,4,6-Tribromophenol	22 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-043

TCLP Metals

Lot-Sample #...: A5B230160-002

Matrix.....: SO

Date Sampled...: 02/22/05 12:40 Date Received...: 02/23/05

Leach Date.....: 02/28/05 Leach Batch #...: P505902

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5061031						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/02/05	G40KD1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-022205-PP-506

GC/MS Volatiles

Lot-Sample #...: A5B230160-003    Work Order #...: G40KF1AC    Matrix.....: WG  
 Date Sampled...: 02/22/05 12:55    Date Received..: 02/23/05  
 Prep Date.....: 03/01/05    Analysis Date..: 03/01/05  
 Prep Batch #...: 5061141  
 Dilution Factor: 1    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	1.0	ug/L
Methyl ethyl ketone	ND	10	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
1,1-Dichloroethylene	ND	1.0	ug/L
Tetrachloroethylene	ND	1.0	ug/L
Trichloroethylene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	107	(73 - 122)
1,2-Dichloroethane-d4	116	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-022205-PP-506

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-003    Work Order #...: G40KF2AD    Matrix.....: WG  
 Date Sampled...: 02/22/05 12:55    Date Received...: 02/23/05  
 Prep Date.....: 02/26/05    Analysis Date...: 03/02/05  
 Prep Batch #...: 5057012  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
m-Cresol & p-Cresol	ND	20	ug/L
1,4-Dichlorobenzene	ND	10	ug/L
2,4-Dinitrotoluene	ND	10	ug/L
Hexachlorobenzene	ND	10	ug/L
Hexachlorobutadiene	ND	10	ug/L
Hexachloroethane	ND	10	ug/L
o-Cresol	ND	10	ug/L
Nitrobenzene	ND	10	ug/L
Pentachlorophenol	ND	10	ug/L
Pyridine	ND	20	ug/L
2,4,5-Trichloro-phenol	ND	10	ug/L
2,4,6-Trichloro-phenol	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	95	( 32 - 112)
2-Fluorobiphenyl	75	( 30 - 110)
Terphenyl-d14	85	( 10 - 144)
Phenol-d5	84	( 10 - 113)
2-Fluorophenol	89	( 13 - 110)
2,4,6-Tribromophenol	83	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-022205-PP-506

TOTAL Metals

Lot-Sample #...: A5B230160-003

Matrix.....: WG

Date Sampled...: 02/22/05 12:55 Date Received...: 02/23/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5055017						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/24/05	G40KF1AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-228

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-004    Work Order #...: G40KN1AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:12    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 03/01/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 2  
 % Moisture.....: 7.5    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>790</b>	<b>710</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	710	ug/kg
Dibenz(a,h)anthracene	ND	710	ug/kg
Dibenzofuran	ND	710	ug/kg
Indeno(1,2,3-cd)pyrene	ND	710	ug/kg
4-Methylphenol	ND	710	ug/kg
Naphthalene	ND	710	ug/kg
Benzo(a)anthracene	ND	710	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	58 DIL	(42 - 110)
2-Fluorobiphenyl	62 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	70 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-228

TOTAL Metals

Lot-Sample #...: A5B230160-004

Matrix.....: SO

Date Sampled...: 02/22/05 11:12 Date Received...: 02/23/05

% Moisture.....: 7.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	4.5	1.1	mg/kg	SW846 6010B	02/25-03/01/05	G40KN1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-228

General Chemistry

Lot-Sample #...: A5B230160-004    Work Order #...: G40KN    Matrix.....: SO  
Date Sampled...: 02/22/05 11:12    Date Received..: 02/23/05  
% Moisture.....: 7.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.5	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-229

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-005    Work Order #...: G400T1AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:15    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 1  
 % Moisture.....: 9.4    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	360	ug/kg
Benzo(a)pyrene	ND	360	ug/kg
Dibenz(a,h)anthracene	ND	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	ND	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	ND	360	ug/kg
Benzo(a)anthracene	ND	360	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	59	(43 - 110)
Terphenyl-d14	75	(37 - 137)
Phenol-d5	66	(25 - 115)
2-Fluorophenol	60	(11 - 116)
2,4,6-Tribromophenol	82	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-229

TOTAL Metals

Lot-Sample #...: A5B230160-005

Matrix.....: SO

Date Sampled...: 02/22/05 11:15 Date Received...: 02/23/05

% Moisture.....: 9.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	1.1	1.1	mg/kg	SW846 6010B	02/25-03/01/05	G400T1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-229

General Chemistry

Lot-Sample #...: A5B230160-005    Work Order #...: G400T    Matrix.....: SO  
Date Sampled...: 02/22/05 11:15    Date Received..: 02/23/05  
% Moisture.....: 9.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	90.6	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-230

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-006    Work Order #...: G40001AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:18    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 20  
 % Moisture.....: 8.3    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	14000	7200	ug/kg
Benzo(a)pyrene	9700	7200	ug/kg
Dibenz(a,h)anthracene	ND	7200	ug/kg
Dibenzofuran	ND	7200	ug/kg
Indeno(1,2,3-cd)pyrene	ND	7200	ug/kg
4-Methylphenol	ND	7200	ug/kg
Naphthalene	17000	7200	ug/kg
Benzo(a)anthracene	13000	7200	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	90 DIL	(42 - 110)
2-Fluorobiphenyl	79 DIL	(43 - 110)
Terphenyl-d14	92 DIL	(37 - 137)
Phenol-d5	86 DIL	(25 - 115)
2-Fluorophenol	77 DIL	(11 - 116)
2,4,6-Tribromophenol	90 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-230

TOTAL Metals

Lot-Sample #...: A5B230160-006

Matrix.....: SO

Date Sampled...: 02/22/05 11:18 Date Received...: 02/23/05

% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	11.0	1.1	mg/kg	SW846 6010B	02/25-03/01/05	G40001AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-230

General Chemistry

Lot-Sample #...: A5B230160-006    Work Order #...: G4000    Matrix.....: SO  
Date Sampled...: 02/22/05 11:18    Date Received..: 02/23/05  
% Moisture.....: 8.3

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.7	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-231

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-007    Work Order #...: G40011AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:22    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 50  
 % Moisture.....: 7.2    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	ND	18000	ug/kg
Benzo(a)pyrene	ND	18000	ug/kg
Dibenz(a,h)anthracene	ND	18000	ug/kg
<b>Dibenzofuran</b>	<b>70000</b>	<b>18000</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	18000	ug/kg
4-Methylphenol	ND	18000	ug/kg
<b>Naphthalene</b>	<b>530000 E</b>	<b>18000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	18000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	76 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-231

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-007    Work Order #...: G40012AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:22    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 03/02/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 2500  
 % Moisture.....: 7.2    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	890000	ug/kg
Benzo(a)pyrene	ND	890000	ug/kg
Dibenz(a,h)anthracene	ND	890000	ug/kg
Dibenzofuran	ND	890000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	890000	ug/kg
4-Methylphenol	ND	890000	ug/kg
<b>Naphthalene</b>	<b>2400000</b>	<b>890000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	890000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-231

TOTAL Metals

Lot-Sample #...: A5B230160-007

Matrix.....: SO

Date Sampled...: 02/22/05 11:22 Date Received...: 02/23/05

% Moisture.....: 7.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	5.0	1.1	mg/kg	SW846 6010B	02/25-03/01/05	G40011AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-231

General Chemistry

Lot-Sample #...: A5B230160-007    Work Order #...: G4001    Matrix.....: SO  
Date Sampled...: 02/22/05 11:22    Date Received..: 02/23/05  
% Moisture.....: 7.2

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.8	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-232

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-008    Work Order #...: G40031AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:28    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 10  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	4000	ug/kg
Benzo(a)pyrene	ND	4000	ug/kg
Dibenz(a,h)anthracene	ND	4000	ug/kg
Dibenzofuran	ND	4000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	4000	ug/kg
4-Methylphenol	ND	4000	ug/kg
<b>Naphthalene</b>	<b>6100</b>	<b>4000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	4000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85 DIL	(42 - 110)
2-Fluorobiphenyl	75 DIL	(43 - 110)
Terphenyl-d14	88 DIL	(37 - 137)
Phenol-d5	75 DIL	(25 - 115)
2-Fluorophenol	63 DIL	(11 - 116)
2,4,6-Tribromophenol	73 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-232

TOTAL Metals

Lot-Sample #...: A5B230160-008

Matrix.....: SO

Date Sampled...: 02/22/05 11:28 Date Received...: 02/23/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	109	1.2	mg/kg	SW846 6010B	02/25-03/01/05	G40031AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-232

General Chemistry

Lot-Sample #...: A5B230160-008    Work Order #...: G4003    Matrix.....: SO  
Date Sampled...: 02/22/05 11:28    Date Received..: 02/23/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.7	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-233

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-009    Work Order #...: G40051AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:31    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 50  
 % Moisture.....: 19    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	29000	20000	ug/kg
Benzo(a)pyrene	22000	20000	ug/kg
Dibenz(a,h)anthracene	ND	20000	ug/kg
Dibenzofuran	ND	20000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	20000	ug/kg
4-Methylphenol	ND	20000	ug/kg
Naphthalene	ND	20000	ug/kg
Benzo(a)anthracene	30000	20000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	83 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	85 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-233

TOTAL Metals

Lot-Sample #...: A5B230160-009

Matrix.....: SO

Date Sampled...: 02/22/05 11:31 Date Received...: 02/23/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	257	1.2	mg/kg	SW846 6010B	02/25-03/01/05	G40051AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-233

General Chemistry

Lot-Sample #...: A5B230160-009    Work Order #...: G4005    Matrix.....: SO  
Date Sampled...: 02/22/05 11:31    Date Received..: 02/23/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.9	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-234

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-010    Work Order #...: G40081AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:33    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 4  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>2200</b>	<b>1700</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	1700	ug/kg
Dibenz(a,h)anthracene	ND	1700	ug/kg
Dibenzofuran	ND	1700	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1700	ug/kg
4-Methylphenol	ND	1700	ug/kg
Naphthalene	ND	1700	ug/kg
Benzo(a)anthracene	ND	1700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	68 DIL	(42 - 110)
2-Fluorobiphenyl	62 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	51 DIL	(11 - 116)
2,4,6-Tribromophenol	55 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-234

TOTAL Metals

Lot-Sample #...: A5B230160-010

Matrix.....: SO

Date Sampled...: 02/22/05 11:33 Date Received...: 02/23/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	14.7	1.3	mg/kg	SW846 6010B	02/25-03/01/05	G40081AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-234

General Chemistry

Lot-Sample #...: A5B230160-010    Work Order #...: G4008    Matrix.....: SO  
Date Sampled...: 02/22/05 11:33    Date Received..: 02/23/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	75.8	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-235

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-011    Work Order #...: G401C1AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:34    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 2  
 % Moisture.....: 23    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	1900	860	ug/kg
Benzo(a)pyrene	1000	860	ug/kg
Dibenz(a,h)anthracene	ND	860	ug/kg
Dibenzofuran	ND	860	ug/kg
Indeno(1,2,3-cd)pyrene	ND	860	ug/kg
4-Methylphenol	ND	860	ug/kg
Naphthalene	ND	860	ug/kg
Benzo(a)anthracene	1300	860	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	59 DIL	(42 - 110)
2-Fluorobiphenyl	50 DIL	(43 - 110)
Terphenyl-d14	63 DIL	(37 - 137)
Phenol-d5	52 DIL	(25 - 115)
2-Fluorophenol	44 DIL	(11 - 116)
2,4,6-Tribromophenol	49 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-235

TOTAL Metals

Lot-Sample #...: A5B230160-011

Matrix.....: SO

Date Sampled...: 02/22/05 11:34 Date Received...: 02/23/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	66.5	1.3	mg/kg	SW846 6010B	02/25-03/01/05	G401C1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-235

General Chemistry

Lot-Sample #...: A5B230160-011    Work Order #...: G401C    Matrix.....: SO  
Date Sampled...: 02/22/05 11:34    Date Received..: 02/23/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.1	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-236

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-012    Work Order #...: G401E1AD    Matrix.....: SO  
 Date Sampled...: 02/22/05 11:37    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 12.5  
 % Moisture.....: 18    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	8500	5100	ug/kg
Benzo(a)pyrene	6700	5100	ug/kg
Dibenz(a,h)anthracene	ND	5100	ug/kg
Dibenzofuran	ND	5100	ug/kg
Indeno(1,2,3-cd)pyrene	ND	5100	ug/kg
4-Methylphenol	ND	5100	ug/kg
Naphthalene	ND	5100	ug/kg
Benzo(a)anthracene	9000	5100	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	64 DIL	(11 - 116)
2,4,6-Tribromophenol	63 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-236

TOTAL Metals

Lot-Sample #...: A5B230160-012

Matrix.....: SO

Date Sampled...: 02/22/05 11:37 Date Received...: 02/23/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5056035

Arsenic	241	1.2	mg/kg	SW846 6010B	02/25-03/01/05	G401E1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-236

General Chemistry

Lot-Sample #...: A5B230160-012    Work Order #...: G401E    Matrix.....: SO  
Date Sampled...: 02/22/05 11:37    Date Received..: 02/23/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.6	10.0	%	MCAWW 160.3 MOD	02/24-02/25/05	5055206

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-507

GC/MS Semivolatiles

Lot-Sample #...: A5B230160-013    Work Order #...: G401J1AC    Matrix.....: WG  
 Date Sampled...: 02/22/05 12:15    Date Received...: 02/23/05  
 Prep Date.....: 02/23/05    Analysis Date...: 02/25/05  
 Prep Batch #...: 5054375  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	65	( 32 - 112)
2-Fluorobiphenyl	54	( 30 - 110)
Terphenyl-d14	86	( 10 - 144)
Phenol-d5	57	( 10 - 113)
2-Fluorophenol	56	( 13 - 110)
2,4,6-Tribromophenol	79	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022205-PP-507

TOTAL Metals

Lot-Sample #...: A5B230160-013

Matrix.....: WG

Date Sampled...: 02/22/05 12:15 Date Received...: 02/23/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5055017						
Arsenic	ND	0.010	mg/L	SW846 6010B	02/24/05	G401J1AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A5B230160  
MB Lot-Sample #: A5C020000-141

Work Order #...: G5C0G1AA

Matrix.....: WATER

Analysis Date...: 03/01/05  
Dilution Factor: 1

Prep Date.....: 03/01/05

Prep Batch #...: 5061141

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethylene	ND	1.0	ug/L	SW846 8260B
Tetrachloroethylene	ND	1.0	ug/L	SW846 8260B
Trichloroethylene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Methyl ethyl ketone	ND	10	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	111	(61 - 128)
Toluene-d8	100	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G48NF1AA      Matrix.....: SOLID  
MB Lot-Sample #: A5B280000-319  
Leach Date.....: 02/28/05      Prep Date.....: 03/02/05      Analysis Date..: 03/02/05  
Leach Batch #..: P505905      Prep Batch #...: 5062190  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	95	(86 - 125)
1,2-Dichloroethane-d4	86	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160  
MB Lot-Sample #: A5B230000-373

Work Order #...: G41F51AA

Matrix.....: SOLID

Prep Date.....: 02/23/05

Analysis Date..: 02/24/05

Prep Batch #...: 5054373

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	( 42 - 110)
2-Fluorobiphenyl	75	( 43 - 110)
Terphenyl-d14	93	( 37 - 137)
Phenol-d5	81	( 25 - 115)
2-Fluorophenol	81	( 11 - 116)
2,4,6-Tribromophenol	79	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160  
MB Lot-Sample #: A5B230000-375

Work Order #...: G41FT1AA

Matrix.....: WATER

Prep Date.....: 02/23/05

Analysis Date..: 02/25/05

Prep Batch #...: 5054375

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	( 32 - 112)
2-Fluorobiphenyl	72	( 30 - 110)
Terphenyl-d14	96	( 10 - 144)
Phenol-d5	76	( 10 - 113)
2-Fluorophenol	69	( 13 - 110)
2,4,6-Tribromophenol	87	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160  
 MB Lot-Sample #: A5B260000-012

Work Order #...: G46931AA

Matrix.....: WATER

Prep Date.....: 02/26/05

Analysis Date...: 03/02/05

Prep Batch #...: 5057012

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C
Hexachlorobenzene	ND	10	ug/L	SW846 8270C
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C
Hexachloroethane	ND	10	ug/L	SW846 8270C
o-Cresol	ND	10	ug/L	SW846 8270C
Nitrobenzene	ND	10	ug/L	SW846 8270C
Pentachlorophenol	ND	10	ug/L	SW846 8270C
Pyridine	ND	20	ug/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	10	ug/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	10	ug/L	SW846 8270C
m-Cresol & p-Cresol	ND	20	ug/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	( 32 - 112 )
2-Fluorobiphenyl	67	( 30 - 110 )
Terphenyl-d14	80	( 10 - 144 )
Phenol-d5	72	( 10 - 113 )
2-Fluorophenol	75	( 13 - 110 )
2,4,6-Tribromophenol	74	( 21 - 122 )

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G48XF1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5B280000-416  
 Leach Date.....: 02/28/05      Prep Date.....: 03/01/05      Analysis Date...: 03/02/05  
 Leach Batch #..: P505902      Prep Batch #...: 5059416  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74	( 32 - 112)
2-Fluorobiphenyl	69	( 30 - 110)
Terphenyl-d14	81	( 10 - 144)
Phenol-d5	60	( 10 - 113)
2-Fluorophenol	72	( 13 - 110)
2,4,6-Tribromophenol	79	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B240000-017		<b>Prep Batch #...</b> : 5055017				
Arsenic	ND	0.010	mg/L	SW846 6010B	02/24/05	G42GC1AW
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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<b>MB Lot-Sample #:</b> A5B250000-035		<b>Prep Batch #...</b> : 5056035				
Arsenic	ND	1.0	mg/kg	SW846 6010B	02/25-03/01/05	G443D1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5B280000-302		<b>Prep Batch #...</b> : 5061031				
<b>Leach Date.....</b> : 02/28/05		<b>Leach Batch #...</b> : P505902				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/02/05	G48L71AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C020000-031		<b>Prep Batch #...</b> : 5061031				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/02/05	G5CQR1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G43C61AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5B240000-206 02/24-02/25/05	5055206

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G5C0G1AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5C020000-141  
 Prep Date.....: 03/01/05      Analysis Date...: 03/01/05  
 Prep Batch #...: 5061141  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
Toluene	105	(74 - 119)	SW846 8260B
1,1-Dichloroethylene	103	(63 - 130)	SW846 8260B
Trichloroethylene	99	(75 - 122)	SW846 8260B
Benzene	90	(80 - 116)	SW846 8260B
Chlorobenzene	95	(76 - 117)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	107	(61 - 128)
Toluene-d8	108	(76 - 110)
4-Bromofluorobenzene	105	(74 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G5FWD1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C030000-190      G5FWD1AC-LCSD  
 Prep Date.....: 03/02/05      Analysis Date...: 03/02/05  
 Prep Batch #...: 5062190  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	99	(76 - 118)			SW846 8260B
	96	(76 - 118)	2.6	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	98	(76 - 113)			SW846 8260B
	96	(76 - 113)	2.6	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	107	(67 - 128)			SW846 8260B
	104	(67 - 128)	3.0	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	96	(76 - 119)			SW846 8260B
	93	(76 - 119)	3.2	(0-30)	SW846 8260B
<b>Toluene</b>	94	(72 - 117)			SW846 8260B
	91	(72 - 117)	3.2	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	101	(86 - 124)
	97	(86 - 124)
1,2-Dichloroethane-d4	88	(80 - 122)
	86	(80 - 122)
Toluene-d8	104	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	104	(84 - 125)
	102	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G41F51AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B230000-373  
 Prep Date.....: 02/23/05      Analysis Date...: 02/24/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	64	(45 - 110)	SW846 8270C
Acenaphthene	67	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	73	(48 - 111)	SW846 8270C
Pyrene	74	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	69	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	75	(38 - 110)	SW846 8270C
Pentachlorophenol	74	(10 - 123)	SW846 8270C
Phenol	64	(35 - 110)	SW846 8270C
2-Chlorophenol	64	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	62	(43 - 110)	SW846 8270C
4-Nitrophenol	53	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	66	(42 - 110)
2-Fluorobiphenyl	61	(43 - 110)
Terphenyl-d14	74	(37 - 137)
Phenol-d5	65	(25 - 115)
2-Fluorophenol	64	(11 - 116)
2,4,6-Tribromophenol	66	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G41FT1AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5B230000-375  
 Prep Date.....: 02/23/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5054375  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	61	(31 - 110)	SW846 8270C
Acenaphthene	76	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	96	(47 - 131)	SW846 8270C
Pyrene	92	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl- amine	81	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	61	(28 - 110)	SW846 8270C
Pentachlorophenol	95	(10 - 140)	SW846 8270C
Phenol	71	(10 - 131)	SW846 8270C
2-Chlorophenol	71	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	82	(29 - 124)	SW846 8270C
4-Nitrophenol	85	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	78	(32 - 112)
2-Fluorobiphenyl	69	(30 - 110)
Terphenyl-d14	95	(10 - 144)
Phenol-d5	72	(10 - 113)
2-Fluorophenol	65	(13 - 110)
2,4,6-Tribromophenol	90	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G46931AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5B260000-012      G46931AD-LCSD  
 Prep Date.....: 02/26/05      Analysis Date...: 03/02/05  
 Prep Batch #...: 5057012  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	74	(31 - 110)			SW846 8270C
	66	(31 - 110)	12	(0-37)	SW846 8270C
Acenaphthene	81	(39 - 118)			SW846 8270C
	72	(39 - 118)	12	(0-35)	SW846 8270C
Pyrene	87	(46 - 130)			SW846 8270C
	78	(46 - 130)	11	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl-amine	96	(30 - 115)			SW846 8270C
	85	(30 - 115)	13	(0-36)	SW846 8270C
Phenol	91	(10 - 131)			SW846 8270C
	80	(10 - 131)	13	(0-43)	SW846 8270C
2-Chlorophenol	86	(19 - 124)			SW846 8270C
	76	(19 - 124)	13	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	81	(29 - 124)			SW846 8270C
	73	(29 - 124)	10	(0-55)	SW846 8270C
4-Nitrophenol	92	(19 - 144)			SW846 8270C
	84	(19 - 144)	10	(0-34)	SW846 8270C
2,4-Dinitrotoluene	89	(47 - 131)			SW846 8270C
	77	(47 - 131)	14	(0-32)	SW846 8270C
1,4-Dichlorobenzene	85	(28 - 110)			SW846 8270C
	72	(28 - 110)	17	(0-36)	SW846 8270C
Pentachlorophenol	97	(10 - 140)			SW846 8270C
	89	(10 - 140)	8.9	(0-56)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	89	(32 - 112)
	82	(32 - 112)
2-Fluorobiphenyl	81	(30 - 110)
	73	(30 - 110)
Terphenyl-d14	87	(10 - 144)
	80	(10 - 144)
Phenol-d5	91	(10 - 113)
	82	(10 - 113)
2-Fluorophenol	96	(13 - 110)
	86	(13 - 110)
2,4,6-Tribromophenol	90	(21 - 122)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G48XF1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B280000-416      G48XF1AD-LCSD  
 Prep Date.....: 03/01/05      Analysis Date...: 03/02/05  
 Prep Batch #...: 5059416  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	69	(33 - 115)			SW846 8270C
	57	(33 - 115)	19	(0-31)	SW846 8270C
m-Cresol & p-Cresol	71	(46 - 109)			SW846 8270C
	57	(46 - 109)	22	(0-32)	SW846 8270C
1,4-Dichlorobenzene	73	(28 - 110)			SW846 8270C
	65	(28 - 110)	12	(0-36)	SW846 8270C
2,4-Dinitrotoluene	76	(47 - 131)			SW846 8270C
	63	(47 - 131)	20	(0-32)	SW846 8270C
Hexachlorobenzene	73	(57 - 128)			SW846 8270C
	59	(57 - 128)	20	(0-22)	SW846 8270C
Hexachlorobutadiene	63	(36 - 116)			SW846 8270C
	56	(36 - 116)	11	(0-32)	SW846 8270C
Hexachloroethane	66	(30 - 110)			SW846 8270C
	58	(30 - 110)	12	(0-33)	SW846 8270C
Nitrobenzene	70	(45 - 130)			SW846 8270C
	58	(45 - 130)	18	(0-50)	SW846 8270C
Pentachlorophenol	71	(10 - 140)			SW846 8270C
	63	(10 - 140)	12	(0-56)	SW846 8270C
Pyridine	41	(10 - 148)			SW846 8270C
	52	(10 - 148)	23	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	72	(41 - 125)			SW846 8270C
	61	(41 - 125)	16	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	70	(46 - 135)			SW846 8270C
	59	(46 - 135)	16	(0-27)	SW846 8270C
Cresols (total)	71	(46 - 109)			SW846 8270C
	57	(46 - 109)	21	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	69	(32 - 112)
	56	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
	54	(30 - 110)
Terphenyl-d14	73	(10 - 144)
	58	(10 - 144)
Phenol-d5	59	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G48XF1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B280000-416      G48XF1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	46	(10 - 113)
2-Fluorophenol	67	(13 - 110)
	54	(13 - 110)
2,4,6-Tribromophenol	73	(21 - 122)
	63	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5B240000-017	Prep Batch #...:	5055017		
Arsenic	90	(80 - 120)	SW846 6010B	02/24/05	G42GC1CN
		Dilution Factor: 1			

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5B250000-035 Prep Batch #...: 5056035

Arsenic 85 (80 - 120) SW846 6010B 02/25-03/01/05 G443D1A6

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C020000-031	Prep Batch #...:	5061031		
Arsenic	92	(50 - 150)	SW846 6010B	03/02/05	G5CQR1AK
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G4V5J1AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5B220134-001      G4V5J1AD-MSD  
 Date Sampled...: 02/21/05 12:20      Date Received...: 02/22/05  
 Prep Date.....: 03/01/05      Analysis Date...: 03/01/05  
 Prep Batch #...: 5061141  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Toluene	95	(70 - 119)			SW846 8260B
	110	(70 - 119)	15	(0-20)	SW846 8260B
1,1-Dichloroethylene	104	(62 - 130)			SW846 8260B
	109	(62 - 130)	4.2	(0-20)	SW846 8260B
Trichloroethylene	86	(62 - 130)			SW846 8260B
	92	(62 - 130)	2.8	(0-20)	SW846 8260B
Benzene	86	(78 - 118)			SW846 8260B
	93	(78 - 118)	7.6	(0-20)	SW846 8260B
Chlorobenzene	88	(76 - 117)			SW846 8260B
	99	(76 - 117)	12	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(73 - 122)
	100	(73 - 122)
1,2-Dichloroethane-d4	112	(61 - 128)
	111	(61 - 128)
Toluene-d8	106	(76 - 110)
	111 *	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)
	98	(74 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G40X71AC-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5B230200-004      G40X71AD-MSD  
 Date Sampled...: 02/22/05 09:52      Date Received...: 02/23/05  
 Prep Date.....: 03/01/05      Analysis Date...: 03/01/05  
 Prep Batch #...: 5061141  
 Dilution Factor: 166.7

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
Toluene	76	(70 - 119)			SW846 8260B
	85	(70 - 119)	1.8	(0-20)	SW846 8260B
1,1-Dichloroethylene	90	(62 - 130)			SW846 8260B
	106	(62 - 130)	17	(0-20)	SW846 8260B
Trichloroethylene	88	(62 - 130)			SW846 8260B
	100	(62 - 130)	13	(0-20)	SW846 8260B
Benzene	70 a	(78 - 118)			SW846 8260B
	85	(78 - 118)	5.7	(0-20)	SW846 8260B
Chlorobenzene	89	(76 - 117)			SW846 8260B
	102	(76 - 117)	14	(0-20)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	104	(61 - 128)
	108	(61 - 128)
Toluene-d8	112 *	(76 - 110)
	109	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	101	(74 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

\* Surrogate recovery is outside stated control limits.

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B230160      Work Order #...: G4N2G1CQ-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5B180131-005      G4N2G1CR-MSD  
 Date Sampled...: 02/15/05 09:00      Date Received...: 02/18/05  
 Leach Date.....: 02/28/05      Prep Date.....: 03/02/05      Analysis Date...: 03/02/05  
 Leach Batch #...: P505905      Prep Batch #...: 5062190  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	95	(76 - 117)			SW846 8260B
	86	(76 - 117)	9.9	(0-30)	SW846 8260B
Chlorobenzene	94	(72 - 114)			SW846 8260B
	78	(72 - 114)	18	(0-30)	SW846 8260B
1,1-Dichloroethylene	101	(67 - 129)			SW846 8260B
	94	(67 - 129)	6.8	(0-30)	SW846 8260B
Trichloroethylene	89	(72 - 121)			SW846 8260B
	79	(72 - 121)	12	(0-30)	SW846 8260B
Toluene	90	(67 - 113)			SW846 8260B
	77	(67 - 113)	16	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
	95	(86 - 125)
1,2-Dichloroethane-d4	84	(80 - 122)
	82	(80 - 122)
Toluene-d8	103	(90 - 122)
	99	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)
	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G401E1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5B230160-012      G401E1AH-MSD  
 Date Sampled...: 02/22/05 11:37      Date Received...: 02/23/05  
 Prep Date.....: 02/23/05      Analysis Date...: 02/28/05  
 Prep Batch #...: 5054373  
 Dilution Factor: 12.5

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	69 DIL	(16 - 121)			SW846 8270C
	68 DIL	(16 - 121)	1.4	(0-54)	SW846 8270C
Acenaphthene	80 DIL	(13 - 133)			SW846 8270C
	84 DIL	(13 - 133)	4.2	(0-44)	SW846 8270C
2,4-Dinitrotoluene	70 DIL	(10 - 171)			SW846 8270C
	64 DIL	(10 - 171)	8.1	(0-45)	SW846 8270C
Pyrene	0.0 DIL,a	(10 - 218)			SW846 8270C
	0.0 DIL,a	(10 - 218)	0.0	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	75 DIL	(12 - 128)			SW846 8270C
	84 DIL	(12 - 128)	11	(0-50)	SW846 8270C
1,4-Dichlorobenzene	82 DIL	(18 - 110)			SW846 8270C
	84 DIL	(18 - 110)	2.7	(0-59)	SW846 8270C
Pentachlorophenol	44 DIL	(10 - 144)			SW846 8270C
	51 DIL	(10 - 144)	14	(0-87)	SW846 8270C
Phenol	12 DIL	(10 - 148)			SW846 8270C
	18 DIL	(10 - 148)	5.6	(0-50)	SW846 8270C
2-Chlorophenol	67 DIL	(17 - 116)			SW846 8270C
	73 DIL	(17 - 116)	8.0	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	70 DIL	(17 - 128)			SW846 8270C
	65 DIL	(17 - 128)	6.3	(0-55)	SW846 8270C
4-Nitrophenol	59 DIL	(10 - 148)			SW846 8270C
	0.0	(10 - 148)	200	(0-64)	SW846 8270C

Qualifiers: DIL,a,p

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	78 DIL	(42 - 110)
	76 DIL	(42 - 110)
2-Fluorobiphenyl	65 DIL	(43 - 110)
	66 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
	75 DIL	(37 - 137)
Phenol-d5	70 DIL	(25 - 115)
	71 DIL	(25 - 115)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G401E1AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5B230160-012      G401E1AH-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorophenol	65 DIL	(11 - 116)
	67 DIL	(11 - 116)
2,4,6-Tribromophenol	71 DIL	(35 - 116)
	77 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.  
p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G41CR1AF-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5B230237-018      G41CR1AG-MSD  
 Date Sampled...: 02/22/05 10:40      Date Received...: 02/23/05  
 Prep Date.....: 02/23/05      Analysis Date...: 02/25/05  
 Prep Batch #...: 5054375  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	61	(22 - 110)			SW846 8270C
	59	(22 - 110)	3.8	(0-37)	SW846 8270C
Acenaphthene	76	(26 - 118)			SW846 8270C
	76	(26 - 118)	0.62	(0-35)	SW846 8270C
2,4-Dinitrotoluene	91	(31 - 131)			SW846 8270C
	95	(31 - 131)	4.4	(0-32)	SW846 8270C
Pyrene	89	(27 - 138)			SW846 8270C
	89	(27 - 138)	0.67	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl-amine	83	(18 - 115)			SW846 8270C
	83	(18 - 115)	0.60	(0-36)	SW846 8270C
1,4-Dichlorobenzene	66	(18 - 110)			SW846 8270C
	63	(18 - 110)	4.6	(0-36)	SW846 8270C
Pentachlorophenol	96	(10 - 140)			SW846 8270C
	100	(10 - 140)	3.9	(0-56)	SW846 8270C
Phenol	71	(10 - 131)			SW846 8270C
	72	(10 - 131)	1.2	(0-43)	SW846 8270C
2-Chlorophenol	72	(19 - 124)			SW846 8270C
	72	(19 - 124)	0.52	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	80	(21 - 124)			SW846 8270C
	82	(21 - 124)	2.0	(0-55)	SW846 8270C
4-Nitrophenol	78	(10 - 145)			SW846 8270C
	83	(10 - 145)	6.4	(0-34)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	74	(32 - 112)
	72	(32 - 112)
2-Fluorobiphenyl	68	(30 - 110)
	66	(30 - 110)
Terphenyl-d14	90	(10 - 144)
	89	(10 - 144)
Phenol-d5	71	(10 - 113)
	72	(10 - 113)
2-Fluorophenol	66	(13 - 110)
	67	(13 - 110)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B230160      Work Order #...: G41CR1AF-MS      Matrix.....: WATER  
MS Lot-Sample #: A5B230237-018      G41CR1AG-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	88	(21 - 122)
	87	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: WATER

Date Sampled...: 02/22/05 10:00 Date Received...: 02/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B230188-001 Prep Batch #...: 5055017

Arsenic	101	(75 - 125)			SW846 6010B	02/24/05	G40T11C9
	101	(75 - 125)	0.46	(0-20)	SW846 6010B	02/24/05	G40T11DA

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TOTAL Metals**

Client Lot #...: A5B230160

Matrix.....: SOLID

Date Sampled...: 02/22/05 09:01 Date Received...: 02/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B230171-001 Prep Batch #...: 5056035

% Moisture.....: 3.9

Arsenic	61 N	(75 - 125)			SW846 6010B	02/25-03/01/05	G40MK1CF
	69 N	(75 - 125)	12	(0-20)	SW846 6010B	02/25-03/01/05	G40MK1CG

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B230160

Matrix.....: SO

Date Sampled...: 02/22/05 11:37 Date Received...: 02/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B230160-012 Prep Batch #...: 5056035

Arsenic	67 N	(75 - 125)			SW846 6010B	02/25-03/01/05	G401E1AE
	60 N	(75 - 125)	3.9	(0-20)	SW846 6010B	02/25-03/01/05	G401E1AF

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B230160

Matrix.....: SOLID

Date Sampled...: 02/16/05 11:00 Date Received...: 02/18/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B180356-001 Prep Batch #...: 5061031

Leach Date.....: 02/28/05 Leach Batch #...: P505902

Arsenic	103	(50 - 150)			SW846 6010B	03/02/05	G4QMT1AP
	102	(50 - 150)	0.50	(0-20)	SW846 6010B	03/02/05	G4QMT1AQ

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B230160

Work Order #...: G406T-SMP  
G406T-DUP

Matrix.....: SOLID

Date Sampled...: 02/22/05 13:38 Date Received...: 02/23/05

% Moisture.....: 15

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	84.6	84.7	%	0.072	(0-20)	MCAWW 160.3 MOD	02/24-02/25/05	5055206

SD Lot-Sample #: A5B230224-007  
Dilution Factor: 1



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

**CHAIN-OF-CUSTODY RECORD**

REFERENCE NUMBER:  
019023-84

PROJECT NAME:

Waukegan MGP Coker Site

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathal*

PARAMETERS:  
Tcup Voc's  
Tcup Sulf  
Tcup Alenic  
Metal Arsenic  
Site Specific Sulf

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.
	2/26/05	12:35	S-022205-PP-041
	2/26/05	12:40	S-022205-PP-043
	2/26/05	12:55	W-022205-PP-506
	2/26/05	11:12	S-022205-PP-228
	2/26/05	11:15	S-022205-PP-229
	2/26/05	11:18	S-022205-PP-230
	2/26/05	11:22	S-022205-PP-231
	2/26/05	11:28	S-022205-PP-232
	2/26/05	11:31	S-022205-PP-233
	2/26/05	11:33	S-022205-PP-234
	2/26/05	11:34	S-022205-PP-235
	2/26/05	11:37	S-022205-PP-236
	2/26/05	12:15	S-022205-PP-507

SAMPLE MATRIX	No. OF CONTAINERS
Soil	2
Soil	2
Water	2
Soil	2
Water	3

REMARKS

Tcup VOCs (No Prep)  
Tcup Sulf: CAA Prep

M S / MSD  
*[Signature]*

**TOTAL NUMBER OF CONTAINERS**

83

RELINQUISHED BY: <i>[Signature]</i>	DATE: 2-22-05	RECEIVED BY: <i>[Signature]</i>	DATE: 2-23-05
RELINQUISHED BY: <i>[Signature]</i>	TIME: 15:00	RECEIVED BY: <i>[Signature]</i>	TIME: 10:00
RELINQUISHED BY: <i>[Signature]</i>	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: _____	TIME: _____

METHOD OF SHIPMENT: FEDEX

AIR BILL No. 8490 1342 6600

- White -Fully Executed Copy
- Yellow -Receiving Laboratory Copy
- Pink -Shipper Copy
- Goldenrod -Sampler Copy

SAMPLE TEAM:

*MA THAK*

RECEIVED FOR LABORATORY BY:

12341

DATE: 2-23-05 TIME: 10:00

**STL Cooler Receipt Form/Narrative**

Lot Number: A575230160

**North Canton Facility**

Client: CRA Project: Waukesha Quote#: \_\_\_\_\_  
 Cooler Received on: 2-23-05 Opened on: 2-23-05 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 2.6 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

√ \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -082404-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

\_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
506	4.2	2-23-05	JM
507	4.2	J	J



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 19023-84**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5B280120**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**March 11, 2005**

## **CASE NARRATIVE**

A5B280120

The following report contains the analytical results for four solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 19023-84. The samples were received February 26, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 9, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 3.1°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-022505-PP-045 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-022505-PP-238, S-022505-PP-239, and S-022505-PP-045 due to high analyte concentrations.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5B280120

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-022505-PP-237 02/25/05 10:10 001</b>				
Arsenic	219	1.3	mg/kg	SW846 6010B
Dibenzofuran	230000	170000	ug/kg	SW846 8270C
Naphthalene	730000	170000	ug/kg	SW846 8270C
Percent Solids	76.0	10.0	%	MCAWW 160.3 MOD
<b>S-022505-PP-238 02/25/05 10:15 002</b>				
Arsenic	2420	7.0	mg/kg	SW846 6010B
Dibenzofuran	340000	290000	ug/kg	SW846 8270C
Naphthalene	4000000 E	290000	ug/kg	SW846 8270C
Naphthalene	10000000	2300000	ug/kg	SW846 8270C
Percent Solids	70.9	10.0	%	MCAWW 160.3 MOD
<b>S-022505-PP-239 02/25/05 10:20 003</b>				
Arsenic	311	1.2	mg/kg	SW846 6010B
Naphthalene	1300000 E	160000	ug/kg	SW846 8270C
Naphthalene	1400000	400000	ug/kg	SW846 8270C
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD
<b>S-022505-PP-045 02/25/05 10:30 004</b>				
o-Cresol	0.24 E	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	0.67 E	0.10	mg/L	SW846 8270C

# ANALYTICAL METHODS SUMMARY

A5B280120

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5B280120

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G48CQ	001	S-022505-PP-237	02/25/05	10:10
G48CV	002	S-022505-PP-238	02/25/05	10:15
G48CW	003	S-022505-PP-239	02/25/05	10:20
G48CX	004	S-022505-PP-045	02/25/05	10:30

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-237

GC/MS Semivolatiles

Lot-Sample #...: A5B280120-001    Work Order #...: G48CQ1AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:10    Date Received...: 02/26/05  
 Prep Date.....: 02/28/05    Analysis Date...: 03/03/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 400  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	170000	ug/kg
Benzo(a)pyrene	ND	170000	ug/kg
Dibenz(a,h)anthracene	ND	170000	ug/kg
<b>Dibenzofuran</b>	<b>230000</b>	<b>170000</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	170000	ug/kg
4-Methylphenol	ND	170000	ug/kg
<b>Naphthalene</b>	<b>730000</b>	<b>170000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	170000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-237

TOTAL Metals

Lot-Sample #...: A5B280120-001

Matrix.....: SO

Date Sampled...: 02/25/05 10:10 Date Received...: 02/26/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5060011						
Arsenic	219	1.3	mg/kg	SW846 6010B	03/01/05	G48CQ1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-237

General Chemistry

Lot-Sample #...: A5B280120-001    Work Order #...: G48CQ    Matrix.....: SO  
Date Sampled...: 02/25/05 10:10    Date Received..: 02/26/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.0	10.0	%	MCAWW 160.3 MOD	03/01-03/02/05	5060493

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-238

GC/MS Semivolatiles

Lot-Sample #...: A5B280120-002    Work Order #...: G48CV1AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:15    Date Received...: 02/26/05  
 Prep Date.....: 02/28/05    Analysis Date...: 03/03/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 625  
 % Moisture.....: 29    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	290000	ug/kg
Benzo(a)pyrene	ND	290000	ug/kg
Dibenz(a,h)anthracene	ND	290000	ug/kg
<b>Dibenzofuran</b>	<b>340000</b>	<b>290000</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	290000	ug/kg
4-Methylphenol	ND	290000	ug/kg
<b>Naphthalene</b>	<b>4000000 E</b>	<b>290000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	290000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-238

GC/MS Semivolatiles

Lot-Sample #...: A5B280120-002    Work Order #...: G48CV2AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:15    Date Received...: 02/26/05  
 Prep Date.....: 02/28/05    Analysis Date...: 03/07/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 5000  
 % Moisture.....: 29    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	2300000	ug/kg
Benzo(a)pyrene	ND	2300000	ug/kg
Dibenz(a,h)anthracene	ND	2300000	ug/kg
Dibenzofuran	ND	2300000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	2300000	ug/kg
4-Methylphenol	ND	2300000	ug/kg
<b>Naphthalene</b>	<b>10000000</b>	<b>2300000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	2300000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-238

TOTAL Metals

Lot-Sample #...: A5B280120-002

Matrix.....: SO

Date Sampled...: 02/25/05 10:15 Date Received...: 02/26/05

% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5060011

Arsenic	2420	7.0	mg/kg	SW846 6010B	03/01-03/02/05	G48CV1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-238

General Chemistry

Lot-Sample #...: A5B280120-002    Work Order #...: G48CV    Matrix.....: SO  
Date Sampled...: 02/25/05 10:15    Date Received..: 02/26/05  
% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	70.9	10.0	%	MCAWW 160.3 MOD	03/01-03/02/05	5060493

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-239

GC/MS Semivolatiles

Lot-Sample #...: A5B280120-003    Work Order #...: G48CW1AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:20    Date Received...: 02/26/05  
 Prep Date.....: 02/28/05    Analysis Date...: 03/03/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 400  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	160000	ug/kg
Benzo(a)pyrene	ND	160000	ug/kg
Dibenz(a,h)anthracene	ND	160000	ug/kg
Dibenzofuran	ND	160000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	160000	ug/kg
4-Methylphenol	ND	160000	ug/kg
<b>Naphthalene</b>	<b>1300000 E</b>	<b>160000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	160000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-239

GC/MS Semivolatiles

Lot-Sample #...: A5B280120-003    Work Order #...: G48CW2AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:20    Date Received...: 02/26/05  
 Prep Date.....: 02/28/05    Analysis Date...: 03/04/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 1000  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	400000	ug/kg
Benzo(a)pyrene	ND	400000	ug/kg
Dibenz(a,h)anthracene	ND	400000	ug/kg
Dibenzofuran	ND	400000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	400000	ug/kg
4-Methylphenol	ND	400000	ug/kg
<b>Naphthalene</b>	<b>1400000</b>	<b>400000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	400000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-239

TOTAL Metals

Lot-Sample #...: A5B280120-003

Matrix.....: SO

Date Sampled...: 02/25/05 10:20 Date Received...: 02/26/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5060011

Arsenic	311	1.2	mg/kg	SW846 6010B	03/01/05	G48CW1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-239

General Chemistry

Lot-Sample #...: A5B280120-003    Work Order #...: G48CW    Matrix.....: SO  
Date Sampled...: 02/25/05 10:20    Date Received..: 02/26/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD	03/01-03/02/05	5060493

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-045

TCLP GC/MS Volatiles

Lot-Sample #...: A5B280120-004    Work Order #...: G48CX1AA    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:30    Date Received...: 02/26/05  
 Leach Date.....: 03/02/05    Prep Date.....: 03/04/05    Analysis Date...: 03/04/05  
 Leach Batch #..: P506108    Prep Batch #...: 5066183  
 Dilution Factor: 3.33  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.083	mg/L
Carbon tetrachloride	ND	0.083	mg/L
Chlorobenzene	ND	0.083	mg/L
Chloroform	ND	0.083	mg/L
1,2-Dichloroethane	ND	0.083	mg/L
1,1-Dichloroethylene	ND	0.23	mg/L
Methyl ethyl ketone	ND	0.17	mg/L
Tetrachloroethylene	ND	0.23	mg/L
Trichloroethylene	ND	0.17	mg/L
Vinyl chloride	ND	0.083	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	96	(86 - 125)
1,2-Dichloroethane-d4	92	(80 - 122)
Toluene-d8	104	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-045

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B280120-004    Work Order #...: G48CX1AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:30    Date Received..: 02/26/05  
 Leach Date.....: 03/02/05    Prep Date.....: 03/03/05    Analysis Date..: 03/04/05  
 Leach Batch #..: P506105    Prep Batch #...: 5061470  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	0.24 E	0.050	mg/L
m-Cresol & p-Cresol	0.67 E	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	60	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
Terphenyl-d14	83	(10 - 144)
Phenol-d5	48	(10 - 113)
2-Fluorophenol	50	(13 - 110)
2,4,6-Tribromophenol	56	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-045

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5B280120-004    Work Order #...: G48CX2AD    Matrix.....: SO  
 Date Sampled...: 02/25/05 10:30    Date Received..: 02/26/05  
 Leach Date.....: 03/02/05    Prep Date.....: 03/03/05    Analysis Date..: 03/07/05  
 Leach Batch #..: P506105    Prep Batch #...: 5061470  
 Dilution Factor: 6.66  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.33	mg/L
m-Cresol & p-Cresol	ND	0.67	mg/L
1,4-Dichlorobenzene	ND	0.33	mg/L
2,4-Dinitrotoluene	ND	0.33	mg/L
Hexachlorobenzene	ND	0.33	mg/L
Hexachlorobutadiene	ND	0.33	mg/L
Hexachloroethane	ND	0.33	mg/L
Nitrobenzene	ND	0.33	mg/L
Pentachlorophenol	ND	0.67	mg/L
Pyridine	ND	0.67	mg/L
2,4,5-Trichloro-phenol	ND	1.7	mg/L
2,4,6-Trichloro-phenol	ND	0.33	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	68 DIL	(32 - 112)
2-Fluorobiphenyl	65 DIL	(30 - 110)
Terphenyl-d14	77 DIL	(10 - 144)
Phenol-d5	51 DIL	(10 - 113)
2-Fluorophenol	49 DIL	(13 - 110)
2,4,6-Tribromophenol	46 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-022505-PP-045

TCLP Metals

Lot-Sample #...: A5B280120-004

Matrix.....: SO

Date Sampled...: 02/25/05 10:30 Date Received...: 02/26/05

Leach Date.....: 03/02/05 Leach Batch #...: P506105

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5063021						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/04/05	G48CX1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B280120      Work Order #...: G5DN21AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C020000-301  
 Leach Date.....: 03/02/05      Prep Date.....: 03/04/05      Analysis Date..: 03/04/05  
 Leach Batch #..: P506108      Prep Batch #...: 5066183  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(86 - 125)
1,2-Dichloroethane-d4	92	(80 - 122)
Toluene-d8	107	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5B280120  
MB Lot-Sample #: A5B280000-303

Work Order #...: G48M61AA

Matrix.....: SOLID

Prep Date.....: 02/28/05

Analysis Date..: 03/03/05

Prep Batch #...: 5059303

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	94	( 42 - 110)
2-Fluorobiphenyl	87	( 43 - 110)
Terphenyl-d14	102	( 37 - 137)
Phenol-d5	91	( 25 - 115)
2-Fluorophenol	98	( 11 - 116)
2,4,6-Tribromophenol	92	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5B280120      Work Order #...: G5EV21AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C020000-470  
 Leach Date.....: 03/02/05      Prep Date.....: 03/03/05      Analysis Date..: 03/04/05  
 Leach Batch #..: P506105      Prep Batch #...: 5061470  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	80	( 32 - 112)
2-Fluorobiphenyl	76	( 30 - 110)
Terphenyl-d14	92	( 10 - 144)
Phenol-d5	66	( 10 - 113)
2-Fluorophenol	76	( 13 - 110)
2,4,6-Tribromophenol	86	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C010000-011		<b>Prep Batch #...</b> : 5060011				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/01/05	G49L81AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5C020000-294	Prep Batch #...:	5063021			
Leach Date.....:	03/02/05	Leach Batch #...:	P506105			
Arsenic	ND	0.50	mg/L	SW846 6010B	03/04/05	G5DK61AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C040000-021		<b>Prep Batch #...</b> : 5063021				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/04/05	G5H2K1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G5DT81AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C010000-493 03/01-03/02/05	5060493
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5B280120      Work Order #...: G5NAH1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C070000-183      G5NAH1AC-LCSD  
 Prep Date.....: 03/04/05      Analysis Date...: 03/04/05  
 Prep Batch #...: 5066183  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	96	(76 - 118)			SW846 8260B
	97	(76 - 118)	1.0	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	98	(76 - 113)			SW846 8260B
	100	(76 - 113)	2.0	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	109	(67 - 128)			SW846 8260B
	108	(67 - 128)	0.84	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	94	(76 - 119)			SW846 8260B
	95	(76 - 119)	1.4	(0-30)	SW846 8260B
<b>Toluene</b>	96	(72 - 117)			SW846 8260B
	96	(72 - 117)	0.20	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(86 - 124)
	97	(86 - 124)
1,2-Dichloroethane-d4	86	(80 - 122)
	91	(80 - 122)
Toluene-d8	105	(90 - 122)
	106	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)
	105	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B280120      Work Order #...: G48M61AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5B280000-303      G48M61AD-LCSD  
 Prep Date.....: 02/28/05      Analysis Date...: 03/03/05  
 Prep Batch #...: 5059303  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	78	(45 - 110)			SW846 8270C
	77	(45 - 110)	0.78	(0-54)	SW846 8270C
Acenaphthene	76	(44 - 110)			SW846 8270C
	74	(44 - 110)	2.0	(0-44)	SW846 8270C
2,4-Dinitrotoluene	87	(48 - 111)			SW846 8270C
	86	(48 - 111)	2.1	(0-45)	SW846 8270C
Pyrene	85	(42 - 122)			SW846 8270C
	83	(42 - 122)	2.1	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	87	(38 - 110)			SW846 8270C
	84	(38 - 110)	3.6	(0-50)	SW846 8270C
1,4-Dichlorobenzene	92	(38 - 110)			SW846 8270C
	89	(38 - 110)	3.2	(0-59)	SW846 8270C
Pentachlorophenol	68	(10 - 123)			SW846 8270C
	69	(10 - 123)	0.59	(0-87)	SW846 8270C
Phenol	80	(35 - 110)			SW846 8270C
	77	(35 - 110)	4.0	(0-50)	SW846 8270C
2-Chlorophenol	82	(43 - 110)			SW846 8270C
	77	(43 - 110)	6.3	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	77	(43 - 110)			SW846 8270C
	75	(43 - 110)	3.2	(0-55)	SW846 8270C
4-Nitrophenol	71	(22 - 128)			SW846 8270C
	75	(22 - 128)	5.7	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77	(42 - 110)
	79	(42 - 110)
2-Fluorobiphenyl	75	(43 - 110)
	75	(43 - 110)
Terphenyl-d14	84	(37 - 137)
	83	(37 - 137)
Phenol-d5	79	(25 - 115)
	79	(25 - 115)
2-Fluorophenol	83	(11 - 116)
	82	(11 - 116)
2,4,6-Tribromophenol	82	(35 - 116)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B280120      Work Order #...: G48M61AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5B280000-303      G48M61AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	83	( 35 - 116 )

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B280120      Work Order #...: G5EV21AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C020000-470      G5EV21AD-LCSD  
 Prep Date.....: 03/03/05      Analysis Date...: 03/07/05  
 Prep Batch #...: 5061470  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	73	(33 - 115)			SW846 8270C
	79	(33 - 115)	7.9	(0-31)	SW846 8270C
m-Cresol & p-Cresol	75	(46 - 109)			SW846 8270C
	81	(46 - 109)	8.6	(0-32)	SW846 8270C
1,4-Dichlorobenzene	83	(28 - 110)			SW846 8270C
	84	(28 - 110)	1.4	(0-36)	SW846 8270C
2,4-Dinitrotoluene	77	(47 - 131)			SW846 8270C
	95	(47 - 131)	21	(0-32)	SW846 8270C
Hexachlorobenzene	84	(57 - 128)			SW846 8270C
	90	(57 - 128)	7.6	(0-22)	SW846 8270C
Hexachlorobutadiene	71	(36 - 116)			SW846 8270C
	77	(36 - 116)	7.6	(0-32)	SW846 8270C
Hexachloroethane	75	(30 - 110)			SW846 8270C
	79	(30 - 110)	4.7	(0-33)	SW846 8270C
Nitrobenzene	76	(45 - 130)			SW846 8270C
	80	(45 - 130)	4.6	(0-50)	SW846 8270C
Pentachlorophenol	87	(10 - 140)			SW846 8270C
	53	(10 - 140)	48	(0-56)	SW846 8270C
Pyridine	67	(10 - 148)			SW846 8270C
	79	(10 - 148)	16	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	76	(41 - 125)			SW846 8270C
	89	(41 - 125)	16	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	74	(46 - 135)			SW846 8270C
	87	(46 - 135)	16	(0-27)	SW846 8270C
Cresols (total)	74	(46 - 109)			SW846 8270C
	81	(46 - 109)	8.4	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(32 - 112)
	78	(32 - 112)
2-Fluorobiphenyl	63	(30 - 110)
	76	(30 - 110)
Terphenyl-d14	79	(10 - 144)
	90	(10 - 144)
Phenol-d5	62	(10 - 113)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5B280120      Work Order #...: G5EV21AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C020000-470      G5EV21AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	66	(10 - 113)
2-Fluorophenol	65	(13 - 110)
	74	(13 - 110)
2,4,6-Tribromophenol	82	(21 - 122)
	86	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C010000-011	Prep Batch #...:	5060011		
Arsenic	86	(80 - 120)	SW846 6010B	03/01/05	G49L81AC
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C040000-021 Prep Batch #...: 5063021

Arsenic	102	(50 - 150)	SW846 6010B	03/04/05	G5H2K1AK
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5B280120      Work Order #...: G49841A0-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C010165-005      G49841A1-MSD  
 Date Sampled...: 02/28/05 11:50      Date Received...: 03/01/05  
 Leach Date.....: 03/02/05      Prep Date.....: 03/04/05      Analysis Date...: 03/04/05  
 Leach Batch #...: P506108      Prep Batch #...: 5066183  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	92	(76 - 117)			SW846 8260B
	94	(76 - 117)	1.5	(0-30)	SW846 8260B
Chlorobenzene	92	(72 - 114)			SW846 8260B
	97	(72 - 114)	6.1	(0-30)	SW846 8260B
1,1-Dichloroethylene	102	(67 - 129)			SW846 8260B
	104	(67 - 129)	1.6	(0-30)	SW846 8260B
Trichloroethylene	88	(72 - 121)			SW846 8260B
	90	(72 - 121)	2.0	(0-30)	SW846 8260B
Toluene	89	(67 - 113)			SW846 8260B
	92	(67 - 113)	3.3	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(86 - 125)
	95	(86 - 125)
1,2-Dichloroethane-d4	86	(80 - 122)
	90	(80 - 122)
Toluene-d8	102	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)
	104	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

Date Sampled...: 02/24/05 14:30 Date Received...: 02/25/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B250155-009 Prep Batch #...: 5060011

% Moisture.....: 4.1

Arsenic	83	(75 - 125)			SW846 6010B	03/01/05	G45N81AF
	84	(75 - 125)	1.6	(0-20)	SW846 6010B	03/01/05	G45N81AG

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5B280120

Matrix.....: SOLID

Date Sampled...: 02/17/05 09:00 Date Received...: 02/24/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5B240216-001 Prep Batch #...: 5063021

Leach Date.....: 03/02/05 Leach Batch #...: P506105

Arsenic	111	(50 - 150)			SW846 6010B	03/04/05	G43HV1AL
	97	(50 - 150)	13	(0-20)	SW846 6010B	03/04/05	G43HV1AM

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5B280120

Work Order #...: G45KH-SMP  
G45KH-DUP

Matrix.....: SOLID

Date Sampled...: 02/24/05 11:10    Date Received...: 02/25/05

% Moisture.....: 14

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	86.0	85.6	%	0.48	(0-20)	MCAWW 160.3 MOD	03/01-03/02/05	5060493
							SD Lot-Sample #: A5B250145-009	
							Dilution Factor: 1	



***END OF REPORT***

STL North Canton  
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## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C020142

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 16, 2005

# **CASE NARRATIVE**

A5C020142

The following report contains the analytical results for one solid sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The sample was received March 2, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 11, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 2.7°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample S-030105-PP-047 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C020142

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
NO DETECTABLE PARAMETERS				

# ANALYTICAL METHODS SUMMARY

A5C020142

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C020142

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G5C7K	001	S-030105-PP-047	03/01/05	10:20

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030105-PP-047

TCLP GC/MS Volatiles

Lot-Sample #...: A5C020142-001    Work Order #...: G5C7K1AA    Matrix.....: SO  
 Date Sampled...: 03/01/05 10:20    Date Received...: 03/02/05  
 Leach Date.....: 03/03/05    Prep Date.....: 03/09/05    Analysis Date...: 03/09/05  
 Leach Batch #..: P506208    Prep Batch #...: 5066189  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	108	(86 - 125)
1,2-Dichloroethane-d4	105	(80 - 122)
Toluene-d8	111	(90 - 122)
4-Bromofluorobenzene	95	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030105-PP-047

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C020142-001    Work Order #...: G5C7K1AD    Matrix.....: SO  
 Date Sampled...: 03/01/05 10:20    Date Received..: 03/02/05  
 Leach Date.....: 03/03/05    Prep Date.....: 03/07/05    Analysis Date...: 03/10/05  
 Leach Batch #..: P506205    Prep Batch #...: 5063067  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	60	(32 - 112)
2-Fluorobiphenyl	64	(30 - 110)
Terphenyl-d14	78	(10 - 144)
Phenol-d5	36	(10 - 113)
2-Fluorophenol	32	(13 - 110)
2,4,6-Tribromophenol	52	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030105-PP-047

TCLP Metals

Lot-Sample #...: A5C020142-001

Matrix.....: SO

Date Sampled...: 03/01/05 10:20 Date Received...: 03/02/05

Leach Date.....: 03/03/05 Leach Batch #...: P506205

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5066025						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/07/05	G5C7K1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C020142      Work Order #...: G5GQ61AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C030000-311  
 Leach Date.....: 03/03/05      Prep Date.....: 03/04/05      Analysis Date..: 03/04/05  
 Leach Batch #..: P506208      Prep Batch #...: 5066189  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	94	(80 - 122)
Toluene-d8	108	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C020142      Work Order #...: G5H4X1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C040000-067  
 Leach Date.....: 03/03/05      Prep Date.....: 03/07/05      Analysis Date...: 03/08/05  
 Leach Batch #...: P506205      Prep Batch #...: 5063067  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	73	( 32 - 112)
2-Fluorobiphenyl	68	( 30 - 110)
Terphenyl-d14	90	( 10 - 144)
Phenol-d5	62	( 10 - 113)
2-Fluorophenol	66	( 13 - 110)
2,4,6-Tribromophenol	81	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C020142

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C030000-303		<b>Prep Batch #...</b> : 5066025				
<b>Leach Date.....</b> : 03/03/05		<b>Leach Batch #...</b> : P506205				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/07/05	G5GPG1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C020142

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C070000-025		<b>Prep Batch #...</b> : 5066025				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/07/05	G5M2J1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C020142      Work Order #...: G5NAQ1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C070000-189      G5NAQ1AC-LCSD  
 Prep Date.....: 03/04/05      Analysis Date...: 03/04/05  
 Prep Batch #...: 5066189  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
Benzene	92	(76 - 118)			SW846 8260B
	94	(76 - 118)	2.2	(0-30)	SW846 8260B
Chlorobenzene	85	(76 - 113)			SW846 8260B
	88	(76 - 113)	3.3	(0-30)	SW846 8260B
1,1-Dichloroethylene	98	(67 - 128)			SW846 8260B
	102	(67 - 128)	3.9	(0-30)	SW846 8260B
Trichloroethylene	83	(76 - 119)			SW846 8260B
	87	(76 - 119)	3.9	(0-30)	SW846 8260B
Toluene	85	(72 - 117)			SW846 8260B
	87	(72 - 117)	3.2	(0-30)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	98	(86 - 124)
	98	(86 - 124)
1,2-Dichloroethane-d4	92	(80 - 122)
	93	(80 - 122)
Toluene-d8	106	(90 - 122)
	107	(90 - 122)
4-Bromofluorobenzene	106	(84 - 125)
	106	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C020142      Work Order #...: G5H4X1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C040000-067      G5H4X1AD-LCSD  
 Prep Date.....: 03/07/05      Analysis Date...: 03/08/05  
 Prep Batch #...: 5063067  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	74	(33 - 115)			SW846 8270C
	71	(33 - 115)	3.4	(0-31)	SW846 8270C
m-Cresol & p-Cresol	74	(46 - 109)			SW846 8270C
	75	(46 - 109)	0.92	(0-32)	SW846 8270C
1,4-Dichlorobenzene	86	(28 - 110)			SW846 8270C
	90	(28 - 110)	5.2	(0-36)	SW846 8270C
2,4-Dinitrotoluene	85	(47 - 131)			SW846 8270C
	87	(47 - 131)	2.5	(0-32)	SW846 8270C
Hexachlorobenzene	84	(57 - 128)			SW846 8270C
	87	(57 - 128)	3.4	(0-22)	SW846 8270C
Hexachlorobutadiene	73	(36 - 116)			SW846 8270C
	77	(36 - 116)	5.5	(0-32)	SW846 8270C
Hexachloroethane	76	(30 - 110)			SW846 8270C
	78	(30 - 110)	3.4	(0-33)	SW846 8270C
Nitrobenzene	76	(45 - 130)			SW846 8270C
	77	(45 - 130)	1.4	(0-50)	SW846 8270C
Pentachlorophenol	98	(10 - 140)			SW846 8270C
	101	(10 - 140)	3.1	(0-56)	SW846 8270C
Pyridine	72	(10 - 148)			SW846 8270C
	71	(10 - 148)	0.87	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	79	(41 - 125)			SW846 8270C
	82	(41 - 125)	3.4	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	79	(46 - 135)			SW846 8270C
	81	(46 - 135)	2.0	(0-27)	SW846 8270C
Cresols (total)	74	(46 - 109)			SW846 8270C
	74	(46 - 109)	0.49	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	77	(32 - 112)
	80	(32 - 112)
2-Fluorobiphenyl	73	(30 - 110)
	75	(30 - 110)
Terphenyl-d14	92	(10 - 144)
	93	(10 - 144)
Phenol-d5	65	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C020142      Work Order #...: G5H4X1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C040000-067      G5H4X1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	65	(10 - 113)
2-Fluorophenol	69	(13 - 110)
	71	(13 - 110)
2,4,6-Tribromophenol	87	(21 - 122)
	88	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C020142

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C070000-025	Prep Batch #...:	5066025		
Arsenic	86	(50 - 150)	SW846 6010B	03/07/05	G5M2J1AK
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C020142      Work Order #...: G5DN01AW-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C020207-002      G5DN01AX-MSD  
 Date Sampled...: 03/01/05 09:34      Date Received...: 03/02/05  
 Leach Date.....: 03/03/05      Prep Date.....: 03/04/05      Analysis Date...: 03/04/05  
 Leach Batch #...: P506208      Prep Batch #...: 5066189  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	94	(76 - 117)			SW846 8260B
	92	(76 - 117)	2.1	(0-30)	SW846 8260B
Chlorobenzene	91	(72 - 114)			SW846 8260B
	78	(72 - 114)	16	(0-30)	SW846 8260B
1,1-Dichloroethylene	102	(67 - 129)			SW846 8260B
	100	(67 - 129)	1.7	(0-30)	SW846 8260B
Trichloroethylene	87	(72 - 121)			SW846 8260B
	83	(72 - 121)	5.6	(0-30)	SW846 8260B
Toluene	89	(67 - 113)			SW846 8260B
	79	(67 - 113)	11	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(86 - 125)
	98	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
	94	(80 - 122)
Toluene-d8	105	(90 - 122)
	105	(90 - 122)
4-Bromofluorobenzene	104	(84 - 125)
	105	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C020142

Matrix.....: SOLID

Date Sampled...: 02/21/05 11:30 Date Received...: 02/25/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5B250250-001 Prep Batch #...: 5066025

Leach Date.....: 03/03/05 Leach Batch #...: P506205

Arsenic	84	(50 - 150)			SW846 6010B	03/07/05	G46DH1AR
	86	(50 - 150)	3.2	(0-20)	SW846 6010B	03/07/05	G46DH1AT

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**STL Cooler Receipt Form/Narrative**

Lot Number: 15020142

**North Canton Facility**

Client: CRA

Project: Waukegan MGP Quote#: \_\_\_\_\_

Cooler Received on: 3-2-05

Opened on: 3-2-05

by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 2.7 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry
- COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 19023-84

WAUKEGAN MGP COKE

Lot #: A5C030170

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 16, 2005

# **CASE NARRATIVE**

A5C030170

The following report contains the analytical results for two solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 19023-84. The samples were received March 3, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 11, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 5.1°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Sample(s) S-030205-PP-049 and S-030205-PP-051 had elevated reporting limits due to TICs.

The matrix spike/matrix spike duplicate(s) for batch(es) 5067136 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GC/MS SEMIVOLATILES**

Sample(s) S-030205-PP-049 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C030170

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-030205-PP-051 03/02/05 11:40 002</b>				
o-Cresol	0.49	0.33	mg/L	SW846 8270C
m-Cresol & p-Cresol	1.1	0.67	mg/L	SW846 8270C
Benzene	0.75	0.20	mg/L	SW846 8260B

# ANALYTICAL METHODS SUMMARY

A5C030170

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C030170

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G5F4G	001	S-030205-PP-049	03/02/05	11:25
G5F4R	002	S-030205-PP-051	03/02/05	11:40

**NOTE(S):**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-049

TCLP GC/MS Volatiles

Lot-Sample #...: A5C030170-001    Work Order #...: G5F4G1AA    Matrix.....: SO  
 Date Sampled...: 03/02/05 11:25    Date Received...: 03/03/05  
 Leach Date.....: 03/07/05    Prep Date.....: 03/08/05    Analysis Date...: 03/08/05  
 Leach Batch #..: P506609    Prep Batch #...: 5067136  
 Dilution Factor: 8  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.20	mg/L
Carbon tetrachloride	ND	0.20	mg/L
Chlorobenzene	ND	0.20	mg/L
Chloroform	ND	0.20	mg/L
1,2-Dichloroethane	ND	0.20	mg/L
1,1-Dichloroethylene	ND	0.56	mg/L
Methyl ethyl ketone	ND	0.40	mg/L
Tetrachloroethylene	ND	0.56	mg/L
Trichloroethylene	ND	0.40	mg/L
Vinyl chloride	ND	0.20	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	108	(86 - 125)
1,2-Dichloroethane-d4	104	(80 - 122)
Toluene-d8	111	(90 - 122)
4-Bromofluorobenzene	94	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-049

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C030170-001    Work Order #...: G5F4G1AD    Matrix.....: SO  
 Date Sampled...: 03/02/05 11:25    Date Received..: 03/03/05  
 Leach Date.....: 03/07/05    Prep Date.....: 03/08/05    Analysis Date..: 03/10/05  
 Leach Batch #..: P506604    Prep Batch #...: 5066404  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	63	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
Terphenyl-d14	91	(10 - 144)
Phenol-d5	18	(10 - 113)
2-Fluorophenol	15	(13 - 110)
2,4,6-Tribromophenol	11 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-049

TCLP Metals

Lot-Sample #...: A5C030170-001

Matrix.....: SO

Date Sampled...: 03/02/05 11:25 Date Received...: 03/03/05

Leach Date.....: 03/07/05 Leach Batch #...: P506604

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5068039						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/09/05	G5F4G1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-051

TCLP GC/MS Volatiles

Lot-Sample #...: A5C030170-002    Work Order #...: G5F4R1AA    Matrix.....: SO  
 Date Sampled...: 03/02/05 11:40    Date Received...: 03/03/05  
 Leach Date.....: 03/07/05    Prep Date.....: 03/08/05    Analysis Date...: 03/08/05  
 Leach Batch #..: P506609    Prep Batch #...: 5067136  
 Dilution Factor: 8  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzene</b>	<b>0.75</b>	<b>0.20</b>	<b>mg/L</b>
Carbon tetrachloride	ND	0.20	mg/L
Chlorobenzene	ND	0.20	mg/L
Chloroform	ND	0.20	mg/L
1,2-Dichloroethane	ND	0.20	mg/L
1,1-Dichloroethylene	ND	0.56	mg/L
Methyl ethyl ketone	ND	0.40	mg/L
Tetrachloroethylene	ND	0.56	mg/L
Trichloroethylene	ND	0.40	mg/L
Vinyl chloride	ND	0.20	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	106	(86 - 125)
1,2-Dichloroethane-d4	104	(80 - 122)
Toluene-d8	110	(90 - 122)
4-Bromofluorobenzene	94	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-051

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C030170-002    Work Order #...: G5F4R1AD    Matrix.....: SO  
 Date Sampled...: 03/02/05 11:40    Date Received..: 03/03/05  
 Leach Date.....: 03/07/05    Prep Date.....: 03/08/05    Analysis Date..: 03/10/05  
 Leach Batch #..: P506604    Prep Batch #...: 5066404  
 Dilution Factor: 6.66  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	0.49	0.33	mg/L
m-Cresol & p-Cresol	1.1	0.67	mg/L
1,4-Dichlorobenzene	ND	0.33	mg/L
2,4-Dinitrotoluene	ND	0.33	mg/L
Hexachlorobenzene	ND	0.33	mg/L
Hexachlorobutadiene	ND	0.33	mg/L
Hexachloroethane	ND	0.33	mg/L
Nitrobenzene	ND	0.33	mg/L
Pentachlorophenol	ND	0.67	mg/L
Pyridine	ND	0.67	mg/L
2,4,5-Trichloro-phenol	ND	1.7	mg/L
2,4,6-Trichloro-phenol	ND	0.33	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	78	(32 - 112)
2-Fluorobiphenyl	78	(30 - 110)
Terphenyl-d14	86	(10 - 144)
Phenol-d5	74	(10 - 113)
2-Fluorophenol	67	(13 - 110)
2,4,6-Tribromophenol	72	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030205-PP-051

TCLP Metals

Lot-Sample #...: A5C030170-002

Matrix.....: SO

Date Sampled...: 03/02/05 11:40 Date Received...: 03/03/05

Leach Date.....: 03/07/05 Leach Batch #...: P506604

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5068039						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/09/05	G5F4R1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C030170      Work Order #...: G5NRR1AA      Matrix.....: SOLID  
MB Lot-Sample #: A5C070000-331  
Leach Date.....: 03/07/05      Prep Date.....: 03/08/05      Analysis Date..: 03/08/05  
Leach Batch #..: P506609      Prep Batch #...: 5067136  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	107	(59 - 138)
1,2-Dichloroethane-d4	106	(61 - 130)
Toluene-d8	110	(60 - 143)
4-Bromofluorobenzene	90	(47 - 158)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C030170      Work Order #...: G5N1J1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C070000-404  
 Leach Date.....: 03/07/05      Prep Date.....: 03/08/05      Analysis Date..: 03/10/05  
 Leach Batch #..: P506603      Prep Batch #...: 5066404  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	57	( 32 - 112)
2-Fluorobiphenyl	53	( 30 - 110)
Terphenyl-d14	83	( 10 - 144)
Phenol-d5	49	( 10 - 113)
2-Fluorophenol	50	( 13 - 110)
2,4,6-Tribromophenol	65	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C030170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C070000-321		<b>Prep Batch #...</b> : 5068039				
<b>Leach Date.....</b> : 03/07/05		<b>Leach Batch #...</b> : P506604				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/09/05	G5NQ51AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C030170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C090000-039		<b>Prep Batch #...</b> : 5068039				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/09/05	G5R541AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C030170      Work Order #...: G5P0W1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C080000-136      G5P0W1AC-LCSD  
 Prep Date.....: 03/08/05      Analysis Date...: 03/08/05  
 Prep Batch #...: 5067136  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	104	(76 - 118)			SW846 8260B
	104	(76 - 118)	0.10	(0-30)	SW846 8260B
Chlorobenzene	95	(76 - 113)			SW846 8260B
	92	(76 - 113)	3.6	(0-30)	SW846 8260B
1,1-Dichloroethylene	99	(67 - 128)			SW846 8260B
	97	(67 - 128)	1.6	(0-30)	SW846 8260B
Trichloroethylene	109	(76 - 119)			SW846 8260B
	108	(76 - 119)	1.1	(0-20)	SW846 8260B
Toluene	86	(72 - 117)			SW846 8260B
	83	(72 - 117)	3.2	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	107	(86 - 124)
	107	(86 - 124)
1,2-Dichloroethane-d4	104	(80 - 122)
	107	(80 - 122)
Toluene-d8	111	(90 - 122)
	113	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)
	97	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C030170      Work Order #...: G5N1J1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C070000-404      G5N1J1AD-LCSD  
 Prep Date.....: 03/08/05      Analysis Date...: 03/10/05  
 Prep Batch #...: 5066404  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	64	(33 - 115)			SW846 8270C
	80	(33 - 115)	22	(0-31)	SW846 8270C
m-Cresol & p-Cresol	65	(46 - 109)			SW846 8270C
	82	(46 - 109)	23	(0-32)	SW846 8270C
1,4-Dichlorobenzene	78	(28 - 110)			SW846 8270C
	101	(28 - 110)	26	(0-36)	SW846 8270C
2,4-Dinitrotoluene	83	(47 - 131)			SW846 8270C
	92	(47 - 131)	11	(0-32)	SW846 8270C
Hexachlorobenzene	79	(57 - 128)			SW846 8270C
	89	(57 - 128)	12	(0-22)	SW846 8270C
Hexachlorobutadiene	62	(36 - 116)			SW846 8270C
	82	(36 - 116)	27	(0-32)	SW846 8270C
Hexachloroethane	66	(30 - 110)			SW846 8270C
	83	(30 - 110)	22	(0-33)	SW846 8270C
Nitrobenzene	65	(45 - 130)			SW846 8270C
	84	(45 - 130)	25	(0-50)	SW846 8270C
Pentachlorophenol	64	(10 - 140)			SW846 8270C
	70	(10 - 140)	8.3	(0-56)	SW846 8270C
Pyridine	62	(10 - 148)			SW846 8270C
	79	(10 - 148)	24	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	74	(41 - 125)			SW846 8270C
	84	(41 - 125)	13	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	69	(46 - 135)			SW846 8270C
	84	(46 - 135)	19	(0-27)	SW846 8270C
Cresols (total)	65	(46 - 109)			SW846 8270C
	81	(46 - 109)	22	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	68	(32 - 112)
	86	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
	80	(30 - 110)
Terphenyl-d14	88	(10 - 144)
	95	(10 - 144)
Phenol-d5	56	(10 - 113)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C030170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C090000-039 Prep Batch #...: 5068039

Arsenic	104	(50 - 150)	SW846 6010B	03/09/05	G5R541AK
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C030170      Work Order #...: G5LHT1AP-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C040368-002      G5LHT1AQ-MSD  
 Date Sampled...: 02/25/05 15:00      Date Received...: 03/04/05  
 Leach Date.....: 03/07/05      Prep Date.....: 03/08/05      Analysis Date...: 03/08/05  
 Leach Batch #...: P506609      Prep Batch #...: 5067136  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	103	(76 - 117)			SW846 8260B
	102	(76 - 117)	0.68	(0-30)	SW846 8260B
Chlorobenzene	89	(72 - 114)			SW846 8260B
	91	(72 - 114)	2.4	(0-30)	SW846 8260B
1,1-Dichloroethylene	98	(67 - 129)			SW846 8260B
	92	(67 - 129)	6.5	(0-30)	SW846 8260B
Trichloroethylene	139 a	(72 - 121)			SW846 8260B
	148 a	(72 - 121)	6.1	(0-30)	SW846 8260B
Toluene	82	(67 - 113)			SW846 8260B
	82	(67 - 113)	0.45	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	106	(86 - 125)
	108	(86 - 125)
1,2-Dichloroethane-d4	106	(80 - 122)
	107	(80 - 122)
Toluene-d8	111	(90 - 122)
	112	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)
	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C030170

Matrix.....: SOLID

Date Sampled...: 02/25/05 10:00 Date Received...: 03/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C010200-001 Prep Batch #...: 5068039

Leach Date.....: 03/07/05 Leach Batch #...: P506604

Arsenic	110	(50 - 150)			SW846 6010B	03/09/05	G5AHL1AL
	111	(50 - 150)	0.74	(0-20)	SW846 6010B	03/09/05	G5AHL1AM

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**STL Cooler Receipt Form/Narrative**

Lot Number

13030170

**North Canton Facility**

Client: CRA Project: Waukegan MAP Quote#: \_\_\_\_\_  
 Cooler Received on: 3-03-05 Opened on: 3-03-05 Coke Site by: Anna Maddux  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# K8371 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 2.1 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C050126

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 17, 2005

## **CASE NARRATIVE**

A5C050126

The following report contains the analytical results for seven solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 05, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 15, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 2.6°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Elevated reporting limits due to TICs for sample S-030405-PP-053.

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C050126

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-030405-PP-240 03/04/05 10:20 001</b>				
Arsenic	3.1	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4800	1800	ug/kg	SW846 8270C
Benzo(a)pyrene	2300	1800	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1800	1800	ug/kg	SW846 8270C
Benzo(a)anthracene	3300	1800	ug/kg	SW846 8270C
Percent Solids	93.1	10.0	%	MCAWW 160.3 MOD
<b>S-030405-PP-241 03/04/05 10:23 002</b>				
Arsenic	2.1	1.0	mg/kg	SW846 6010B
Benzo(b)fluoranthene	390	340	ug/kg	SW846 8270C
Percent Solids	96.2	10.0	%	MCAWW 160.3 MOD
<b>S-030405-PP-242 03/04/05 10:25 003</b>				
Arsenic	2.5	1.1	mg/kg	SW846 6010B
Dibenzofuran	13000	8700	ug/kg	SW846 8270C
Naphthalene	25000	8700	ug/kg	SW846 8270C
Percent Solids	94.5	10.0	%	MCAWW 160.3 MOD
<b>S-030405-PP-243 03/04/05 10:27 004</b>				
Arsenic	3.1	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1600	360	ug/kg	SW846 8270C
Benzo(a)pyrene	1300	360	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	430	360	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1100	360	ug/kg	SW846 8270C
Naphthalene	1400	360	ug/kg	SW846 8270C
Benzo(a)anthracene	910	360	ug/kg	SW846 8270C
Percent Solids	91.0	10.0	%	MCAWW 160.3 MOD
<b>S-030405-PP-244 03/04/05 10:29 005</b>				
Arsenic	17.4	1.1	mg/kg	SW846 6010B
Naphthalene	720000	370000	ug/kg	SW846 8270C
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD
<b>S-030405-PP-245 03/04/05 10:31 006</b>				
Arsenic	28.5	1.1	mg/kg	SW846 6010B
Naphthalene	57000	19000	ug/kg	SW846 8270C
Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C050126

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C050126

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G5L8F	001	S-030405-PP-240	03/04/05	10:20
G5L8L	002	S-030405-PP-241	03/04/05	10:23
G5L8M	003	S-030405-PP-242	03/04/05	10:25
G5L8N	004	S-030405-PP-243	03/04/05	10:27
G5L8P	005	S-030405-PP-244	03/04/05	10:29
G5L8Q	006	S-030405-PP-245	03/04/05	10:31
G5L8R	007	S-030405-PP-053	03/04/05	10:00

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-240

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-001    Work Order #...: G5L8F1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:20    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 5  
 % Moisture.....: 7.0    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	4800	1800	ug/kg
Benzo(a)pyrene	2300	1800	ug/kg
Dibenz(a,h)anthracene	ND	1800	ug/kg
Dibenzofuran	ND	1800	ug/kg
Indeno(1,2,3-cd)pyrene	1800	1800	ug/kg
4-Methylphenol	ND	1800	ug/kg
Naphthalene	ND	1800	ug/kg
Benzo(a)anthracene	3300	1800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	66 DIL	(42 - 110)
2-Fluorobiphenyl	62 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	60 DIL	(25 - 115)
2-Fluorophenol	45 DIL	(11 - 116)
2,4,6-Tribromophenol	53 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-240

TOTAL Metals

Lot-Sample #...: A5C050126-001

Matrix.....: SO

Date Sampled...: 03/04/05 10:20 Date Received...: 03/05/05

% Moisture.....: 7.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	3.1	1.1	mg/kg	SW846 6010B	03/07-03/08/05	G5L8F1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-240

General Chemistry

Lot-Sample #...: A5C050126-001    Work Order #...: G5L8F    Matrix.....: SO  
Date Sampled...: 03/04/05 10:20    Date Received..: 03/05/05  
% Moisture.....: 7.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	93.1	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-241

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-002    Work Order #...: G5L8L1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:23    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 1  
 % Moisture.....: 3.8    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>390</b>	<b>340</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	340	ug/kg
Dibenz(a,h)anthracene	ND	340	ug/kg
Dibenzofuran	ND	340	ug/kg
Indeno(1,2,3-cd)pyrene	ND	340	ug/kg
4-Methylphenol	ND	340	ug/kg
Naphthalene	ND	340	ug/kg
Benzo(a)anthracene	ND	340	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	68	(42 - 110)
2-Fluorobiphenyl	62	(43 - 110)
Terphenyl-d14	83	(37 - 137)
Phenol-d5	76	(25 - 115)
2-Fluorophenol	70	(11 - 116)
2,4,6-Tribromophenol	80	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-241

TOTAL Metals

Lot-Sample #...: A5C050126-002

Matrix.....: SO

Date Sampled...: 03/04/05 10:23 Date Received...: 03/05/05

% Moisture.....: 3.8

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	2.1	1.0	mg/kg	SW846 6010B	03/07-03/08/05	G5L8L1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-241

General Chemistry

Lot-Sample #...: A5C050126-002    Work Order #...: G5L8L    Matrix.....: SO  
Date Sampled...: 03/04/05 10:23    Date Received..: 03/05/05  
% Moisture.....: 3.8

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	96.2	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-242

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-003    Work Order #...: G5L8M1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:25    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 25  
 % Moisture.....: 5.5    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	8700	ug/kg
Benzo(a)pyrene	ND	8700	ug/kg
Dibenz(a,h)anthracene	ND	8700	ug/kg
<b>Dibenzofuran</b>	<b>13000</b>	<b>8700</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	8700	ug/kg
4-Methylphenol	ND	8700	ug/kg
<b>Naphthalene</b>	<b>25000</b>	<b>8700</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	8700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	76 DIL	(42 - 110)
2-Fluorobiphenyl	78 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	56 DIL	(11 - 116)
2,4,6-Tribromophenol	80 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-242

TOTAL Metals

Lot-Sample #...: A5C050126-003

Matrix.....: SO

Date Sampled...: 03/04/05 10:25 Date Received...: 03/05/05

% Moisture.....: 5.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	2.5	1.1	mg/kg	SW846 6010B	03/07-03/08/05	G5L8M1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-242

General Chemistry

Lot-Sample #...: A5C050126-003    Work Order #...: G5L8M    Matrix.....: SO  
Date Sampled...: 03/04/05 10:25    Date Received..: 03/05/05  
% Moisture.....: 5.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	94.5	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-243

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-004    Work Order #...: G5L8N1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:27    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 1  
 % Moisture.....: 9.0    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	1600	360	ug/kg
Benzo(a)pyrene	1300	360	ug/kg
Dibenz(a,h)anthracene	430	360	ug/kg
Dibenzofuran	ND	360	ug/kg
Indeno(1,2,3-cd)pyrene	1100	360	ug/kg
4-Methylphenol	ND	360	ug/kg
Naphthalene	1400	360	ug/kg
Benzo(a)anthracene	910	360	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	76	(42 - 110)
2-Fluorobiphenyl	66	(43 - 110)
Terphenyl-d14	84	(37 - 137)
Phenol-d5	87	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2,4,6-Tribromophenol	79	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-243

TOTAL Metals

Lot-Sample #...: A5C050126-004

Matrix.....: SO

Date Sampled...: 03/04/05 10:27 Date Received...: 03/05/05

% Moisture.....: 9.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	3.1	1.1	mg/kg	SW846 6010B	03/07-03/08/05	G5L8N1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-243

General Chemistry

Lot-Sample #...: A5C050126-004    Work Order #...: G5L8N    Matrix.....: SO  
Date Sampled...: 03/04/05 10:27    Date Received..: 03/05/05  
% Moisture.....: 9.0

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.0	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-244

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-005    Work Order #...: G5L8P1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:29    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 1000  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	370000	ug/kg
Benzo(a)pyrene	ND	370000	ug/kg
Dibenz(a,h)anthracene	ND	370000	ug/kg
Dibenzofuran	ND	370000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370000	ug/kg
4-Methylphenol	ND	370000	ug/kg
<b>Naphthalene</b>	<b>720000</b>	<b>370000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	370000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-244

TOTAL Metals

Lot-Sample #...: A5C050126-005

Matrix.....: SO

Date Sampled...: 03/04/05 10:29 Date Received...: 03/05/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	17.4	1.1	mg/kg	SW846 6010B	03/07-03/08/05	G5L8P1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-244

General Chemistry

Lot-Sample #...: A5C050126-005    Work Order #...: G5L8P    Matrix.....: SO  
Date Sampled...: 03/04/05 10:29    Date Received..: 03/05/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-245

GC/MS Semivolatiles

Lot-Sample #...: A5C050126-006    Work Order #...: G5L8Q1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:31    Date Received...: 03/05/05  
 Prep Date.....: 03/07/05    Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 50  
 % Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	19000	ug/kg
Benzo(a)pyrene	ND	19000	ug/kg
Dibenz(a,h)anthracene	ND	19000	ug/kg
Dibenzofuran	ND	19000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	19000	ug/kg
4-Methylphenol	ND	19000	ug/kg
<b>Naphthalene</b>	<b>57000</b>	<b>19000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	19000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	93 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-245

TOTAL Metals

Lot-Sample #...: A5C050126-006

Matrix.....: SO

Date Sampled...: 03/04/05 10:31 Date Received...: 03/05/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5066031

Arsenic	28.5	1.1	mg/kg	SW846 6010B	03/07-03/08/05	G5L8Q1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-245

General Chemistry

Lot-Sample #...: A5C050126-006    Work Order #...: G5L8Q    Matrix.....: SO  
Date Sampled...: 03/04/05 10:31    Date Received..: 03/05/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.4	10.0	%	MCAWW 160.3 MOD	03/08-03/09/05	5067137

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-053

TCLP GC/MS Volatiles

Lot-Sample #...: A5C050126-007    Work Order #...: G5L8R1AA    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:00    Date Received...: 03/05/05  
 Leach Date.....: 03/10/05    Prep Date.....: 03/11/05    Analysis Date...: 03/11/05  
 Leach Batch #..: P506908    Prep Batch #...: 5073142  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	103	(86 - 125)
1,2-Dichloroethane-d4	107	(80 - 122)
Toluene-d8	105	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-053

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C050126-007    Work Order #...: G5L8R1AD    Matrix.....: SO  
 Date Sampled...: 03/04/05 10:00    Date Received..: 03/05/05  
 Leach Date.....: 03/08/05    Prep Date.....: 03/09/05    Analysis Date..: 03/10/05  
 Leach Batch #..: P506710    Prep Batch #...: 5068088  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	54	(32 - 112)
2-Fluorobiphenyl	66	(30 - 110)
Terphenyl-d14	88	(10 - 144)
Phenol-d5	41	(10 - 113)
2-Fluorophenol	36	(13 - 110)
2,4,6-Tribromophenol	60	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030405-PP-053

TCLP Metals

Lot-Sample #...: A5C050126-007

Matrix.....: SO

Date Sampled...: 03/04/05 10:00 Date Received...: 03/05/05

Leach Date.....: 03/08/05 Leach Batch #...: P506710

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5069017						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/10-03/11/05	G5L8R1AE
		Dilution Factor: 1				

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C050126      Work Order #...: G5X041AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C100000-311  
 Leach Date.....: 03/10/05      Prep Date.....: 03/11/05      Analysis Date...: 03/11/05  
 Leach Batch #..: P506908      Prep Batch #...: 5073142  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	101	(86 - 125)
1,2-Dichloroethane-d4	106	(80 - 122)
Toluene-d8	104	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5M221AA      Matrix.....: SOLID  
MB Lot-Sample #: A5C070000-037  
Prep Date.....: 03/07/05  
Analysis Date..: 03/09/05      Prep Batch #...: 5066037  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72	( 42 - 110)
2-Fluorobiphenyl	65	( 43 - 110)
Terphenyl-d14	88	( 37 - 137)
Phenol-d5	76	( 25 - 115)
2-Fluorophenol	73	( 11 - 116)
2,4,6-Tribromophenol	72	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5R9K1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C090000-088  
 Leach Date.....: 03/08/05      Prep Date.....: 03/09/05      Analysis Date..: 03/10/05  
 Leach Batch #..: P506710      Prep Batch #...: 5068088  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	79	( 32 - 112)
2-Fluorobiphenyl	74	( 30 - 110)
Terphenyl-d14	90	( 10 - 144)
Phenol-d5	60	( 10 - 113)
2-Fluorophenol	64	( 13 - 110)
2,4,6-Tribromophenol	80	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5C070000-031		Prep Batch #...: 5066031				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/07/05	G5M2V1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C080000-334		<b>Prep Batch #...:</b> 5069017				
<b>Leach Date.....:</b> 03/08/05		<b>Leach Batch #...:</b> P506710				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/10-03/11/05	G5QV61AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C100000-017		<b>Prep Batch #...</b> : 5069017				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/10-03/11/05	G5WN51AG
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G5P1N1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C080000-137 03/08-03/09/05	5067137
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C050126      Work Order #...: G55901AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C140000-142      G55901AC-LCSD  
 Prep Date.....: 03/11/05      Analysis Date...: 03/11/05  
 Prep Batch #...: 5073142  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	99	(76 - 118)			SW846 8260B
	98	(76 - 118)	1.6	(0-30)	SW846 8260B
<b>Chlorobenzene</b>	98	(76 - 113)			SW846 8260B
	93	(76 - 113)	5.4	(0-30)	SW846 8260B
<b>1,1-Dichloroethylene</b>	106	(67 - 128)			SW846 8260B
	102	(67 - 128)	3.8	(0-30)	SW846 8260B
<b>Trichloroethylene</b>	97	(76 - 119)			SW846 8260B
	94	(76 - 119)	3.3	(0-30)	SW846 8260B
<b>Toluene</b>	95	(72 - 117)			SW846 8260B
	90	(72 - 117)	5.8	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(86 - 124)
	103	(86 - 124)
1,2-Dichloroethane-d4	101	(80 - 122)
	108	(80 - 122)
Toluene-d8	103	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)
	106	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5M221AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C070000-037  
 Prep Date.....: 03/07/05      Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	76	(45 - 110)	SW846 8270C
Acenaphthene	72	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	83	(48 - 111)	SW846 8270C
Pyrene	87	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	86	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	91	(38 - 110)	SW846 8270C
Pentachlorophenol	66	(10 - 123)	SW846 8270C
Phenol	79	(35 - 110)	SW846 8270C
2-Chlorophenol	77	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	79	(43 - 110)	SW846 8270C
4-Nitrophenol	78	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	77	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	83	(25 - 115)
2-Fluorophenol	82	(11 - 116)
2,4,6-Tribromophenol	81	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5R9K1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C090000-088      G5R9K1AD-LCSD  
 Prep Date.....: 03/09/05      Analysis Date...: 03/10/05  
 Prep Batch #...: 5068088  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	81	(33 - 115)			SW846 8270C
	81	(33 - 115)	0.65	(0-31)	SW846 8270C
m-Cresol & p-Cresol	83	(46 - 109)			SW846 8270C
	82	(46 - 109)	0.66	(0-32)	SW846 8270C
1,4-Dichlorobenzene	97	(28 - 110)			SW846 8270C
	98	(28 - 110)	1.5	(0-36)	SW846 8270C
2,4-Dinitrotoluene	85	(47 - 131)			SW846 8270C
	86	(47 - 131)	1.2	(0-32)	SW846 8270C
Hexachlorobenzene	82	(57 - 128)			SW846 8270C
	86	(57 - 128)	3.9	(0-22)	SW846 8270C
Hexachlorobutadiene	80	(36 - 116)			SW846 8270C
	79	(36 - 116)	1.7	(0-32)	SW846 8270C
Hexachloroethane	81	(30 - 110)			SW846 8270C
	81	(30 - 110)	0.070	(0-33)	SW846 8270C
Nitrobenzene	82	(45 - 130)			SW846 8270C
	81	(45 - 130)	0.93	(0-50)	SW846 8270C
Pentachlorophenol	71	(10 - 140)			SW846 8270C
	70	(10 - 140)	1.0	(0-56)	SW846 8270C
Pyridine	78	(10 - 148)			SW846 8270C
	76	(10 - 148)	3.2	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	87	(41 - 125)			SW846 8270C
	83	(41 - 125)	4.0	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	84	(46 - 135)			SW846 8270C
	81	(46 - 135)	4.0	(0-27)	SW846 8270C
Cresols (total)	82	(46 - 109)			SW846 8270C
	82	(46 - 109)	0.66	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	(32 - 112)
	80	(32 - 112)
2-Fluorobiphenyl	73	(30 - 110)
	74	(30 - 110)
Terphenyl-d14	86	(10 - 144)
	87	(10 - 144)
Phenol-d5	67	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5R9K1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C090000-088      G5R9K1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	67	(10 - 113)
2-Fluorophenol	72	(13 - 110)
	72	(13 - 110)
2,4,6-Tribromophenol	87	(21 - 122)
	84	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C070000-031 Prep Batch #...: 5066031

Arsenic 86 (80 - 120) SW846 6010B 03/07-03/08/05 G5M2V1A6

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C100000-017 Prep Batch #...: 5069017

Arsenic 103 (50 - 150) SW846 6010B 03/10-03/11/05 G5WN51AW

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C050126      Work Order #...: G5TE01AQ-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C090111-002      G5TE01AR-MSD  
 Date Sampled...: 03/07/05 09:00      Date Received...: 03/08/05  
 Leach Date.....: 03/10/05      Prep Date.....: 03/11/05      Analysis Date...: 03/11/05  
 Leach Batch #...: P506908      Prep Batch #...: 5073142  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	103	(76 - 117)			SW846 8260B
	101	(76 - 117)	1.8	(0-30)	SW846 8260B
Chlorobenzene	101	(72 - 114)			SW846 8260B
	99	(72 - 114)	2.2	(0-30)	SW846 8260B
1,1-Dichloroethylene	109	(67 - 129)			SW846 8260B
	108	(67 - 129)	0.28	(0-30)	SW846 8260B
Trichloroethylene	99	(72 - 121)			SW846 8260B
	97	(72 - 121)	2.3	(0-30)	SW846 8260B
Toluene	98	(67 - 113)			SW846 8260B
	96	(67 - 113)	2.0	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
	104	(86 - 125)
1,2-Dichloroethane-d4	102	(80 - 122)
	105	(80 - 122)
Toluene-d8	105	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	105	(84 - 125)
	106	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C050126      Work Order #...: G5MEH1AC-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C050145-006      G5MEH1AD-MSD  
 Date Sampled...: 03/04/05 09:22      Date Received...: 03/05/05  
 Prep Date.....: 03/07/05      Analysis Date...: 03/09/05  
 Prep Batch #...: 5066037  
 Dilution Factor: 1      % Moisture.....: 17

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Acenaphthene	72	(13 - 133)			SW846 8270C
	75	(13 - 133)	5.1	(0-44)	SW846 8270C
2,4-Dinitrotoluene	92	(10 - 171)			SW846 8270C
	89	(10 - 171)	2.7	(0-45)	SW846 8270C
Pyrene	48	(10 - 218)			SW846 8270C
	41	(10 - 218)	6.6	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	87	(12 - 128)			SW846 8270C
	88	(12 - 128)	1.7	(0-50)	SW846 8270C
Pentachlorophenol	67	(10 - 144)			SW846 8270C
	66	(10 - 144)	0.21	(0-87)	SW846 8270C
Phenol	80	(10 - 148)			SW846 8270C
	79	(10 - 148)	1.0	(0-50)	SW846 8270C
2-Chlorophenol	77	(17 - 116)			SW846 8270C
	72	(17 - 116)	5.4	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	81	(17 - 128)			SW846 8270C
	83	(17 - 128)	3.6	(0-55)	SW846 8270C
4-Nitrophenol	79	(10 - 148)			SW846 8270C
	79	(10 - 148)	1.1	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76	(42 - 110)
	79	(42 - 110)
2-Fluorobiphenyl	72	(43 - 110)
	75	(43 - 110)
Terphenyl-d14	83	(37 - 137)
	75	(37 - 137)
Phenol-d5	76	(25 - 115)
	74	(25 - 115)
2-Fluorophenol	63	(11 - 116)
	55	(11 - 116)
2,4,6-Tribromophenol	60	(35 - 116)
	56	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters  
 Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

Date Sampled...: 03/02/05 11:48 Date Received...: 03/03/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C030101-014 Prep Batch #...: 5066031

% Moisture.....: 10

Arsenic	75	(75 - 125)			SW846 6010B	03/07/05	G5FJE1CC
	77	(75 - 125)	2.6	(0-20)	SW846 6010B	03/07/05	G5FJE1CD

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C050126

Matrix.....: SOLID

Date Sampled...: 03/03/05 13:50 Date Received...: 03/05/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C070202-001 Prep Batch #...: 5069017

Leach Date.....: 03/08/05 Leach Batch #...: P506710

Arsenic	105	(50 - 150)			SW846 6010B	03/10-03/11/05	G5N9A1CF
	104	(50 - 150)	0.85	(0-20)	SW846 6010B	03/10-03/11/05	G5N9A1CG

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C050126

Work Order #...: G5KJG-SMP  
G5KJG-DUP

Matrix.....: SOLID

Date Sampled...: 03/03/05 08:43 Date Received...: 03/04/05

% Moisture.....: 11

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	88.7	89.1	%	0.46	(0-20)	MCAWW 160.3 MOD	03/08-03/09/05	5067137
Dilution Factor: 1								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C050126

Work Order #...: G5KLM-SMP  
G5KLM-DUP

Matrix.....: SOLID

Date Sampled...: 03/03/05 12:02    Date Received...: 03/04/05

% Moisture.....: 21

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	78.9	79.7	%	0.92	(0-20)	MCAWW 160.3 MOD	03/08-03/09/05	5067137
Dilution Factor: 1								



# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019023-84

PROJECT NAME:

New Keys MGP Cate Site

### CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh R. Thak*

PARAMETERS:

*Volatile Organic Solvents  
Semi-Volatile Organic Solvents  
Inorganic Solvents*

REMARKS

SEQ. NO.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	NO. OF CONTAINERS	REMARKS	
	3/4/05	10:00	S-030405-PP-240	Soil	2	X X	
	3/4/05	10:33	S-030405-PP-241	Soil	2	X X	
	3/4/05	10:35	S-030405-PP-242	Soil	2	X X	
	3/4/05	10:37	S-030405-PP-243	Soil	2	X X	
	3/4/05	10:38	S-030405-PP-244	Soil	2	X X	
	3/4/05	10:31	S-030405-PP-245	Soil	2	X X	
	3/4/05	10:00	S-030405-PP-053	Soil	2	X X X	
TOTAL NUMBER OF CONTAINERS						8	2 WEEK TAT

RELINQUISHED BY: *[Signature]* DATE: 3/4/05 TIME: 1:00 RECEIVED BY: *[Signature]* DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: *F-EDOX* AIR BILL NO. 8490 1342 6622

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: *P. PATTNAIK*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 3/5/05 TIME: 9:00

13032

**STL Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: ASC05020

Client: CRA  
 Cooler Received on: 3/5/05

Project: Waukegan  
 Opened on: 3/5/05

Quote#: \_\_\_\_\_  
 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# 542 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 2.6 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

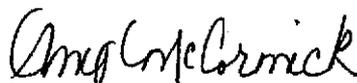
WAUKEGAN COKE PLANT

Lot #: A5C100335

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 17, 2005

## **CASE NARRATIVE**

A5C100335

The following report contains the analytical results for two solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan Coke Plant Site, project number 019023-84. The samples were received March 10, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 15, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 1.9°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

Samples S-030905-PP-055 and S-030905-PP-057 had elevated reporting limits due to TICs.

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



Y:\Barb\STL headers\Qc846-Narrative\_060204.doc, Revised 06/02/04 DJL

# EXECUTIVE SUMMARY - Detection Highlights

A5C100335

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-030905-PP-057 03/09/05 10:40 002				
o-Cresol	0.80	0.62	mg/L	SW846 8270C
m-Cresol & p-Cresol	1.9	1.2	mg/L	SW846 8270C

# ANALYTICAL METHODS SUMMARY

A5C100335

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C100335

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G502P	001	S-030905-PP-055	03/09/05	10:30
G5030	002	S-030905-PP-057	03/09/05	10:40

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-055

TCLP GC/MS Volatiles

Lot-Sample #...: A5C100335-001    Work Order #...: G502P1AA    Matrix.....: SO  
 Date Sampled...: 03/09/05 10:30    Date Received...: 03/10/05  
 Leach Date.....: 03/11/05    Prep Date.....: 03/14/05    Analysis Date...: 03/14/05  
 Leach Batch #..: P507008    Prep Batch #...: 5074109  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	100	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-055

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C100335-001    Work Order #...: G502P1AD    Matrix.....: SO  
 Date Sampled...: 03/09/05 10:30    Date Received..: 03/10/05  
 Leach Date.....: 03/11/05    Prep Date.....: 03/12/05    Analysis Date...: 03/15/05  
 Leach Batch #..: P507007    Prep Batch #...: 5070364  
 Dilution Factor: 2  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.10	mg/L
m-Cresol & p-Cresol	ND	0.20	mg/L
1,4-Dichlorobenzene	ND	0.10	mg/L
2,4-Dinitrotoluene	ND	0.10	mg/L
Hexachlorobenzene	ND	0.10	mg/L
Hexachlorobutadiene	ND	0.10	mg/L
Hexachloroethane	ND	0.10	mg/L
Nitrobenzene	ND	0.10	mg/L
Pentachlorophenol	ND	0.20	mg/L
Pyridine	ND	0.20	mg/L
2,4,5-Trichloro-phenol	ND	0.50	mg/L
2,4,6-Trichloro-phenol	ND	0.10	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	58 DIL	( 32 - 112 )
2-Fluorobiphenyl	57 DIL	( 30 - 110 )
Terphenyl-d14	73 DIL	( 10 - 144 )
Phenol-d5	65 DIL	( 10 - 113 )
2-Fluorophenol	56 DIL	( 13 - 110 )
2,4,6-Tribromophenol	75 DIL	( 21 - 122 )

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-055

TCLP Metals

Lot-Sample #...: A5C100335-001

Matrix.....: SO

Date Sampled...: 03/09/05 10:30 Date Received...: 03/10/05

Leach Date.....: 03/11/05 Leach Batch #...: P507007

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5073021						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/14/05	G502P1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-057

TCLP GC/MS Volatiles

Lot-Sample #...: A5C100335-002    Work Order #...: G50301AA    Matrix.....: SO  
 Date Sampled...: 03/09/05 10:40    Date Received...: 03/10/05  
 Leach Date.....: 03/11/05    Prep Date.....: 03/14/05    Analysis Date...: 03/14/05  
 Leach Batch #..: P507008    Prep Batch #...: 5074109  
 Dilution Factor: 6.67  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	99	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-057

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C100335-002    Work Order #...: G50301AD    Matrix.....: SO  
 Date Sampled...: 03/09/05 10:40    Date Received..: 03/10/05  
 Leach Date.....: 03/11/05    Prep Date.....: 03/12/05    Analysis Date...: 03/15/05  
 Leach Batch #..: P507007    Prep Batch #...: 5070364  
 Dilution Factor: 12.5  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	0.80	0.62	mg/L
m-Cresol & p-Cresol	1.9	1.2	mg/L
1,4-Dichlorobenzene	ND	0.62	mg/L
2,4-Dinitrotoluene	ND	0.62	mg/L
Hexachlorobenzene	ND	0.62	mg/L
Hexachlorobutadiene	ND	0.62	mg/L
Hexachloroethane	ND	0.62	mg/L
Nitrobenzene	ND	0.62	mg/L
Pentachlorophenol	ND	1.2	mg/L
Pyridine	ND	1.2	mg/L
2,4,5-Trichloro-phenol	ND	3.1	mg/L
2,4,6-Trichloro-phenol	ND	0.62	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	74 DIL	(32 - 112)
2-Fluorobiphenyl	71 DIL	(30 - 110)
Terphenyl-d14	87 DIL	(10 - 144)
Phenol-d5	78 DIL	(10 - 113)
2-Fluorophenol	70 DIL	(13 - 110)
2,4,6-Tribromophenol	78 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-030905-PP-057

TCLP Metals

Lot-Sample #...: A5C100335-002

Matrix.....: SO

Date Sampled...: 03/09/05 10:40 Date Received...: 03/10/05

Leach Date.....: 03/11/05 Leach Batch #...: P507007

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5073021						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/14/05	G50301AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C100335      Work Order #...: G512A1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C110000-169  
 Leach Date.....: 03/11/05      Prep Date.....: 03/14/05      Analysis Date..: 03/14/05  
 Leach Batch #..: P507008      Prep Batch #...: 5074109  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	103	(86 - 125)
1,2-Dichloroethane-d4	100	(80 - 122)
Toluene-d8	106	(90 - 122)
4-Bromofluorobenzene	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C100335      Work Order #...: G53C41AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C110000-364  
 Leach Date.....: 03/11/05      Prep Date.....: 03/12/05      Analysis Date...: 03/15/05  
 Leach Batch #..: P507007      Prep Batch #...: 5070364  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67	( 32 - 112)
2-Fluorobiphenyl	60	( 30 - 110)
Terphenyl-d14	77	( 10 - 144)
Phenol-d5	66	( 10 - 113)
2-Fluorophenol	60	( 13 - 110)
2,4,6-Tribromophenol	73	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C100335

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5C110000-166	Prep Batch #...:	5073021			
Leach Date.....:	03/11/05	Leach Batch #...:	P507007			
Arsenic	ND	0.50	mg/L	SW846 6010B	03/14/05	G511T1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C100335

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C140000-021		<b>Prep Batch #...</b> : 5073021				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/14/05	G554M1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C100335      Work Order #...: G574J1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C150000-109      G574J1AC-LCSD  
 Prep Date.....: 03/14/05      Analysis Date...: 03/14/05  
 Prep Batch #...: 5074109  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	94	(76 - 118)			SW846 8260B
	100	(76 - 118)	5.8	(0-30)	SW846 8260B
Chlorobenzene	84	(76 - 113)			SW846 8260B
	97	(76 - 113)	14	(0-30)	SW846 8260B
1,1-Dichloroethylene	102	(67 - 128)			SW846 8260B
	104	(67 - 128)	2.1	(0-30)	SW846 8260B
Trichloroethylene	87	(76 - 119)			SW846 8260B
	95	(76 - 119)	9.2	(0-30)	SW846 8260B
Toluene	83	(72 - 117)			SW846 8260B
	93	(72 - 117)	11	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	103	(86 - 124)
	102	(86 - 124)
1,2-Dichloroethane-d4	100	(80 - 122)
	97	(80 - 122)
Toluene-d8	100	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	104	(84 - 125)
	105	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C100335      Work Order #...: G53C41AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C110000-364      G53C41AD-LCSD  
 Prep Date.....: 03/12/05      Analysis Date...: 03/15/05  
 Prep Batch #...: 5070364  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	68	(33 - 115)			SW846 8270C
	71	(33 - 115)	3.6	(0-31)	SW846 8270C
m-Cresol & p-Cresol	73	(46 - 109)			SW846 8270C
	77	(46 - 109)	6.0	(0-32)	SW846 8270C
1,4-Dichlorobenzene	62	(28 - 110)			SW846 8270C
	69	(28 - 110)	9.4	(0-36)	SW846 8270C
2,4-Dinitrotoluene	81	(47 - 131)			SW846 8270C
	87	(47 - 131)	6.8	(0-32)	SW846 8270C
Hexachlorobenzene	77	(57 - 128)			SW846 8270C
	82	(57 - 128)	5.5	(0-22)	SW846 8270C
Hexachlorobutadiene	54	(36 - 116)			SW846 8270C
	55	(36 - 116)	2.7	(0-32)	SW846 8270C
Hexachloroethane	46	(30 - 110)			SW846 8270C
	51	(30 - 110)	10	(0-33)	SW846 8270C
Nitrobenzene	70	(45 - 130)			SW846 8270C
	73	(45 - 130)	3.0	(0-50)	SW846 8270C
Pentachlorophenol	80	(10 - 140)			SW846 8270C
	85	(10 - 140)	6.3	(0-56)	SW846 8270C
Pyridine	49	(10 - 148)			SW846 8270C
	58	(10 - 148)	16	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	78	(41 - 125)			SW846 8270C
	83	(41 - 125)	6.3	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	76	(46 - 135)			SW846 8270C
	79	(46 - 135)	4.4	(0-27)	SW846 8270C
Cresols (total)	71	(46 - 109)			SW846 8270C
	75	(46 - 109)	5.3	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70	(32 - 112)
	74	(32 - 112)
2-Fluorobiphenyl	67	(30 - 110)
	69	(30 - 110)
Terphenyl-d14	80	(10 - 144)
	86	(10 - 144)
Phenol-d5	71	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C100335      Work Order #...: G53C41AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C110000-364      G53C41AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	77	(10 - 113)
2-Fluorophenol	61	(13 - 110)
	65	(13 - 110)
2,4,6-Tribromophenol	81	(21 - 122)
	85	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C100335

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C140000-021 Prep Batch #...: 5073021

Arsenic	104	(50 - 150)	SW846 6010B	03/14/05	G554M1AK
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**MATRIX SPIKE SAMPLE EVALUATION REPORT**

**TCLP GC/MS Volatiles**

Client Lot #...: A5C100335      Work Order #...: G50KJ1AV-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C100269-002      G50KJ1AW-MSD  
 Date Sampled...: 03/09/05 11:30      Date Received...: 03/10/05  
 Leach Date.....: 03/11/05      Prep Date.....: 03/14/05      Analysis Date...: 03/14/05  
 Leach Batch #...: P507008      Prep Batch #...: 5074109  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	100	(76 - 117)			SW846 8260B
	94	(76 - 117)	6.1	(0-30)	SW846 8260B
Chlorobenzene	95	(72 - 114)			SW846 8260B
	83	(72 - 114)	14	(0-30)	SW846 8260B
1,1-Dichloroethylene	106	(67 - 129)			SW846 8260B
	101	(67 - 129)	4.9	(0-30)	SW846 8260B
Trichloroethylene	93	(72 - 121)			SW846 8260B
	86	(72 - 121)	8.0	(0-30)	SW846 8260B
Toluene	92	(67 - 113)			SW846 8260B
	83	(67 - 113)	11	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	101	(86 - 125)
	100	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
	97	(80 - 122)
Toluene-d8	102	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	106	(84 - 125)
	104	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C100335

Matrix.....: SOLID

Date Sampled...: 03/09/05 11:20 Date Received...: 03/10/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C100269-001 Prep Batch #...: 5073021

Leach Date.....: 03/11/05 Leach Batch #...: P507007

Arsenic	105	(50 - 150)			SW846 6010B	03/14/05	G50JP1AW
	111	(50 - 150)	5.5	(0-20)	SW846 6010B	03/14/05	G50JP1AX

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



**STL Cooler Receipt Form/Narrative**

Lot Number: ASC 100 335

**North Canton Facility**

Client: CRA Project: \_\_\_\_\_ Quote#: \_\_\_\_\_  
 Cooler Received on: 3-10-05 Opened on: 3-10-05 by: Michaela Lutz  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 1.9 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>Zn/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

\_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C110204

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 21, 2005

# CASE NARRATIVE

A5C110204

The following report contains the analytical results for one solid sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The sample was received March 11, 2005, according to documented sample acceptance procedures.

Sample S-031005-PP-059 analyzed for Total TCLP VOCs and Total TCLP SVOCs as instructed by Dave Hendren on March 10, 2005.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 21, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 5.4°C.

#### **GC/MS VOLATILES**

Elevated reporting limits due to TICs for sample S-031005-PP-059.

#### **GC/MS SEMIVOLATILES**

The matrix spike/matrix spike duplicate(s) for S-031005-PP-059 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

The internal standard areas for Chrysene-d12 and Perylene-d12 were outside acceptance limits for sample S-031005-PP-059 MSD due to matrix effects.

#### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C110204

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-031005-PP-059 03/10/05 11:15 001				
o-Cresol	0.22	0.20	mg/L	SW846 8270C
m-Cresol & p-Cresol	0.64	0.40	mg/L	SW846 8270C
m-Cresol & p-Cresol	23000	18000	ug/kg	SW846 8270C
Percent Solids	73.5	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C110204

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C110204

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G52ND	001	S-031005-PP-059	03/10/05	11:15

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

GC/MS Volatiles

Lot-Sample #...: A5C110204-001    Work Order #...: G52ND1AL    Matrix.....: SO  
 Date Sampled...: 03/10/05 11:15    Date Received..: 03/11/05  
 Prep Date.....: 03/15/05    Analysis Date..: 03/16/05  
 Prep Batch #...: 5075112  
 Dilution Factor: 2.5  
 % Moisture.....: 26    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	850	ug/kg
Methyl ethyl ketone	ND	3400	ug/kg
Carbon tetrachloride	ND	850	ug/kg
Chlorobenzene	ND	850	ug/kg
Chloroform	ND	850	ug/kg
1,2-Dichloroethane	ND	850	ug/kg
1,1-Dichloroethylene	ND	850	ug/kg
Tetrachloroethylene	ND	850	ug/kg
Trichloroethylene	ND	850	ug/kg
Vinyl chloride	ND	850	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	62 DIL	(59 - 138)
1,2-Dichloroethane-d4	66 DIL	(61 - 130)
Toluene-d8	62 DIL	(60 - 143)
4-Bromofluorobenzene	61 DIL	(47 - 158)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

TCLP GC/MS Volatiles

Lot-Sample #...: A5C110204-001    Work Order #...: G52ND1AA    Matrix.....: SO  
 Date Sampled...: 03/10/05 11:15    Date Received...: 03/11/05  
 Leach Date.....: 03/14/05    Prep Date.....: 03/15/05    Analysis Date...: 03/15/05  
 Leach Batch #..: P507309    Prep Batch #...: 5075158  
 Dilution Factor: 6.67  
 % Moisture.....: 26    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.17	mg/L
Carbon tetrachloride	ND	0.17	mg/L
Chlorobenzene	ND	0.17	mg/L
Chloroform	ND	0.17	mg/L
1,2-Dichloroethane	ND	0.17	mg/L
1,1-Dichloroethylene	ND	0.47	mg/L
Methyl ethyl ketone	ND	0.33	mg/L
Tetrachloroethylene	ND	0.47	mg/L
Trichloroethylene	ND	0.33	mg/L
Vinyl chloride	ND	0.17	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	94	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

GC/MS Semivolatiles

Lot-Sample #...: A5C110204-001    Work Order #...: G52ND1AP    Matrix.....: SO  
 Date Sampled...: 03/10/05 11:15    Date Received...: 03/11/05  
 Prep Date.....: 03/13/05    Analysis Date...: 03/15/05  
 Prep Batch #...: 5072030  
 Dilution Factor: 20  
 % Moisture.....: 26    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>m-Cresol &amp; p-Cresol</b>	<b>23000</b>	<b>18000</b>	<b>ug/kg</b>
1,4-Dichlorobenzene	ND	9000	ug/kg
2,4-Dinitrotoluene	ND	9000	ug/kg
Hexachlorobenzene	ND	9000	ug/kg
Hexachlorobutadiene	ND	9000	ug/kg
Hexachloroethane	ND	9000	ug/kg
o-Cresol	ND	9000	ug/kg
Nitrobenzene	ND	9000	ug/kg
Pentachlorophenol	ND	9000	ug/kg
Pyridine	ND	18000	ug/kg
2,4,5-Trichloro-phenol	ND	9000	ug/kg
2,4,6-Trichloro-phenol	ND	9000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	61 DIL	(42 - 110)
2-Fluorobiphenyl	74 DIL	(43 - 110)
Terphenyl-d14	89 DIL	(37 - 137)
Phenol-d5	63 DIL	(25 - 115)
2-Fluorophenol	75 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C110204-001    Work Order #...: G52ND1AE    Matrix.....: SO  
 Date Sampled...: 03/10/05 11:15    Date Received..: 03/11/05  
 Leach Date.....: 03/14/05    Prep Date.....: 03/16/05    Analysis Date..: 03/21/05  
 Leach Batch #..: P507306    Prep Batch #...: 5074048  
 Dilution Factor: 4  
 % Moisture.....: 26    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	0.22	0.20	mg/L
m-Cresol & p-Cresol	0.64	0.40	mg/L
1,4-Dichlorobenzene	ND	0.20	mg/L
2,4-Dinitrotoluene	ND	0.20	mg/L
Hexachlorobenzene	ND	0.20	mg/L
Hexachlorobutadiene	ND	0.20	mg/L
Hexachloroethane	ND	0.20	mg/L
Nitrobenzene	ND	0.20	mg/L
Pentachlorophenol	ND	0.40	mg/L
Pyridine	ND	0.40	mg/L
2,4,5-Trichloro-phenol	ND	1.0	mg/L
2,4,6-Trichloro-phenol	ND	0.20	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	56 DIL	(32 - 112)
2-Fluorobiphenyl	56 DIL	(30 - 110)
Terphenyl-d14	75 DIL	(10 - 144)
Phenol-d5	49 DIL	(10 - 113)
2-Fluorophenol	22 DIL	(13 - 110)
2,4,6-Tribromophenol	71 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

TCLP Metals

Lot-Sample #...: A5C110204-001

Matrix.....: SO

Date Sampled...: 03/10/05 11:15 Date Received...: 03/11/05

Leach Date.....: 03/14/05 Leach Batch #...: P507306

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5075018						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/16/05	G52ND1AH
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031005-PP-059

General Chemistry

Lot-Sample #...: A5C110204-001    Work Order #...: G52ND    Matrix.....: SO  
Date Sampled...: 03/10/05 11:15    Date Received..: 03/11/05  
% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.5	10.0	%	MCAWW 160.3 MOD	03/11-03/14/05	5070524

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A5C110204  
MB Lot-Sample #: A5C160000-112

Work Order #...: G6AEW1AA

Matrix.....: SOLID

Analysis Date...: 03/15/05  
Dilution Factor: 1

Prep Date.....: 03/15/05

Prep Batch #...: 5075112

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	250	ug/kg	SW846 8260B
Methyl ethyl ketone	ND	1000	ug/kg	SW846 8260B
Carbon tetrachloride	ND	250	ug/kg	SW846 8260B
Chlorobenzene	ND	250	ug/kg	SW846 8260B
Chloroform	ND	250	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	250	ug/kg	SW846 8260B
1,1-Dichloroethylene	ND	250	ug/kg	SW846 8260B
Tetrachloroethylene	ND	250	ug/kg	SW846 8260B
Trichloroethylene	ND	250	ug/kg	SW846 8260B
Vinyl chloride	ND	250	ug/kg	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	76	( 59 - 138 )
1,2-Dichloroethane-d4	79	( 61 - 130 )
Toluene-d8	78	( 60 - 143 )
4-Bromofluorobenzene	77	( 47 - 158 )

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C110204      Work Order #...: G56VA1AA      Matrix.....: SOLID  
MB Lot-Sample #: A5C140000-334  
Leach Date.....: 03/14/05      Prep Date.....: 03/15/05      Analysis Date..: 03/15/05  
Leach Batch #..: P507309      Prep Batch #...: 5075158  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204  
 MB Lot-Sample #: A5C130000-030

Work Order #...: G55191AA

Matrix.....: SOLID

Prep Date.....: 03/13/05

Analysis Date..: 03/16/05

Prep Batch #...: 5072030

Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
o-Cresol	ND	330	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	330	ug/kg	SW846 8270C
Pyridine	ND	660	ug/kg	SW846 8270C
2,4,5-Trichloro-phenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichloro-phenol	ND	330	ug/kg	SW846 8270C
m-Cresol & p-Cresol	ND	660	ug/kg	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	59	( 42 - 110)
2-Fluorobiphenyl	58	( 43 - 110)
Terphenyl-d14	65	( 37 - 137)
Phenol-d5	60	( 25 - 115)
2-Fluorophenol	63	( 11 - 116)
2,4,6-Tribromophenol	58	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G57WQ1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C150000-048  
 Leach Date.....: 03/14/05      Prep Date.....: 03/16/05      Analysis Date...: 03/21/05  
 Leach Batch #...: P507306      Prep Batch #...: 5074048  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	( 32 - 112)
2-Fluorobiphenyl	63	( 30 - 110)
Terphenyl-d14	86	( 10 - 144)
Phenol-d5	60	( 10 - 113)
2-Fluorophenol	42	( 13 - 110)
2,4,6-Tribromophenol	81	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C110204

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #:	A5C140000-311	Prep Batch #...:	5075018			
Leach Date.....:	03/14/05	Leach Batch #...:	P507306			
Arsenic	ND	0.50	mg/L	SW846 6010B	03/16/05	G56RQ1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C110204

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C160000-018		<b>Prep Batch #...</b> : 5075018				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/16/05	G597L1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C110204

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G56QL1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C110000-524 03/11-03/14/05	5070524
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #...: A5C110204      Work Order #...: G6AEW1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C160000-112      G6AEW1AD-LCSD  
 Prep Date.....: 03/15/05      Analysis Date...: 03/15/05  
 Prep Batch #...: 5075112  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	95	(75 - 129)			<b>SW846 8260B</b>
	93	(75 - 129)	1.5	(0-20)	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	96	(75 - 127)			<b>SW846 8260B</b>
	91	(75 - 127)	5.0	(0-22)	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	83	(55 - 142)			<b>SW846 8260B</b>
	80	(55 - 142)	3.6	(0-27)	<b>SW846 8260B</b>
<b>Toluene</b>	86	(71 - 130)			<b>SW846 8260B</b>
	82	(71 - 130)	4.5	(0-24)	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	96	(70 - 131)			<b>SW846 8260B</b>
	93	(70 - 131)	3.6	(0-23)	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	81	(59 - 138)
	80	(59 - 138)
1,2-Dichloroethane-d4	84	(61 - 130)
	84	(61 - 130)
Toluene-d8	84	(60 - 143)
	81	(60 - 143)
4-Bromofluorobenzene	88	(47 - 158)
	81	(47 - 158)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #...: A5C110204      Work Order #...: G6AHV1AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C160000-158      G6AHV1AC-LCSD  
 Prep Date.....: 03/15/05      Analysis Date...: 03/15/05  
 Prep Batch #...: 5075158  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>105</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	<b>105</b>	<b>(76 - 118)</b>	<b>0.31</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>103</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	<b>103</b>	<b>(76 - 113)</b>	<b>0.29</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	<b>120</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	<b>117</b>	<b>(67 - 128)</b>	<b>2.2</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	<b>104</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	<b>102</b>	<b>(76 - 119)</b>	<b>1.8</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>100</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	<b>99</b>	<b>(72 - 117)</b>	<b>0.71</b>	<b>(0-30)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 124)
	102	(86 - 124)
1,2-Dichloroethane-d4	93	(80 - 122)
	95	(80 - 122)
Toluene-d8	100	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)
	104	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G55191AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C130000-030  
 Prep Date.....: 03/13/05      Analysis Date...: 03/16/05  
 Prep Batch #...: 5072030  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	58	(45 - 110)	SW846 8270C
Acenaphthene	54	(44 - 110)	SW846 8270C
Pyrene	59	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	61	(38 - 110)	SW846 8270C
Phenol	56	(35 - 110)	SW846 8270C
2-Chlorophenol	58	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	55	(43 - 110)	SW846 8270C
4-Nitrophenol	50	(22 - 128)	SW846 8270C
2,4-Dinitrotoluene	60	(48 - 111)	SW846 8270C
1,4-Dichlorobenzene	70	(38 - 110)	SW846 8270C
Pentachlorophenol	47	(10 - 123)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	59	(42 - 110)
2-Fluorobiphenyl	58	(43 - 110)
Terphenyl-d14	67	(37 - 137)
Phenol-d5	60	(25 - 115)
2-Fluorophenol	63	(11 - 116)
2,4,6-Tribromophenol	57	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G57WQ1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C150000-048      G57WQ1AD-LCSD  
 Prep Date.....: 03/16/05      Analysis Date...: 03/21/05  
 Prep Batch #...: 5074048  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	67	(33 - 115)			SW846 8270C
	68	(33 - 115)	1.2	(0-31)	SW846 8270C
m-Cresol & p-Cresol	71	(46 - 109)			SW846 8270C
	74	(46 - 109)	3.8	(0-32)	SW846 8270C
1,4-Dichlorobenzene	74	(28 - 110)			SW846 8270C
	80	(28 - 110)	8.1	(0-36)	SW846 8270C
2,4-Dinitrotoluene	79	(47 - 131)			SW846 8270C
	84	(47 - 131)	5.7	(0-32)	SW846 8270C
Hexachlorobenzene	80	(57 - 128)			SW846 8270C
	85	(57 - 128)	6.1	(0-22)	SW846 8270C
Hexachlorobutadiene	68	(36 - 116)			SW846 8270C
	65	(36 - 116)	5.0	(0-32)	SW846 8270C
Hexachloroethane	67	(30 - 110)			SW846 8270C
	67	(30 - 110)	0.29	(0-33)	SW846 8270C
Nitrobenzene	72	(45 - 130)			SW846 8270C
	72	(45 - 130)	0.050	(0-50)	SW846 8270C
Pentachlorophenol	64	(10 - 140)			SW846 8270C
	70	(10 - 140)	8.6	(0-56)	SW846 8270C
Pyridine	71	(10 - 148)			SW846 8270C
	57	(10 - 148)	21	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	75	(41 - 125)			SW846 8270C
	78	(41 - 125)	4.6	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	72	(46 - 135)			SW846 8270C
	75	(46 - 135)	4.0	(0-27)	SW846 8270C
Cresols (total)	70	(46 - 109)			SW846 8270C
	72	(46 - 109)	2.9	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(32 - 112)
	73	(32 - 112)
2-Fluorobiphenyl	69	(30 - 110)
	69	(30 - 110)
Terphenyl-d14	82	(10 - 144)
	87	(10 - 144)
Phenol-d5	59	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G57WQ1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C150000-048      G57WQ1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	64	(10 - 113)
2-Fluorophenol	33	(13 - 110)
	38	(13 - 110)
2,4,6-Tribromophenol	82	(21 - 122)
	83	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C110204

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C160000-018	Prep Batch #...:	5075018		
Arsenic	101	(50 - 150)	SW846 6010B	03/16/05	G597L1AM
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C110204      Work Order #...: G5RL91C3-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C080391-001      G5RL91C4-MSD  
 Date Sampled...: 03/07/05 11:00      Date Received...: 03/08/05  
 Leach Date.....: 03/14/05      Prep Date.....: 03/15/05      Analysis Date...: 03/15/05  
 Leach Batch #...: P507309      Prep Batch #...: 5075158  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	106	(76 - 117)			SW846 8260B
	103	(76 - 117)	2.6	(0-30)	SW846 8260B
Chlorobenzene	102	(72 - 114)			SW846 8260B
	101	(72 - 114)	0.23	(0-30)	SW846 8260B
1,1-Dichloroethylene	122	(67 - 129)			SW846 8260B
	116	(67 - 129)	4.9	(0-30)	SW846 8260B
Trichloroethylene	102	(72 - 121)			SW846 8260B
	100	(72 - 121)	1.4	(0-30)	SW846 8260B
Toluene	98	(67 - 113)			SW846 8260B
	97	(67 - 113)	0.42	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
	100	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
	94	(80 - 122)
Toluene-d8	102	(90 - 122)
	101	(90 - 122)
4-Bromofluorobenzene	106	(84 - 125)
	105	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G52ND1AQ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C110204-001      G52ND1AR-MSD  
 Date Sampled...: 03/10/05 11:15      Date Received...: 03/11/05  
 Prep Date.....: 03/13/05      Analysis Date...: 03/15/05  
 Prep Batch #...: 5072030  
 Dilution Factor: 20

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	81 DIL	(16 - 121)			SW846 8270C
	68 DIL	(16 - 121)	17	(0-54)	SW846 8270C
Acenaphthene	948 DIL,a	(13 - 133)			SW846 8270C
	0.0 DIL,a	(13 - 133)	0.0	(0-44)	SW846 8270C
Pyrene	8180 DIL,	(10 - 218)			SW846 8270C
	0.0 DIL,a	(10 - 218)	0.0	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl- amine	73 DIL	(12 - 128)			SW846 8270C
	68 DIL	(12 - 128)	7.1	(0-50)	SW846 8270C
Phenol	2090 DIL,	(10 - 148)			SW846 8270C
	0.0 DIL,a	(10 - 148)	0.0	(0-50)	SW846 8270C
2-Chlorophenol	76 DIL	(17 - 116)			SW846 8270C
	61 DIL	(17 - 116)	21	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	72 DIL	(17 - 128)			SW846 8270C
	61 DIL	(17 - 128)	17	(0-55)	SW846 8270C
4-Nitrophenol	0.0 DIL,a	(10 - 148)			SW846 8270C
	0.0 DIL,a	(10 - 148)	0.0	(0-64)	SW846 8270C
2,4-Dinitrotoluene	0.0 DIL,a	(10 - 171)			SW846 8270C
	120 DIL,p	(10 - 171)	200	(0-45)	SW846 8270C
1,4-Dichlorobenzene	94 DIL	(18 - 110)			SW846 8270C
	69 DIL	(18 - 110)	31	(0-59)	SW846 8270C
Pentachlorophenol	0.0 DIL,a	(10 - 144)			SW846 8270C
	0.0 DIL,a	(10 - 144)	0.0	(0-87)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	64 DIL	(42 - 110)
	55 DIL	(42 - 110)
2-Fluorobiphenyl	77 DIL	(43 - 110)
	64 DIL	(43 - 110)
Terphenyl-d14	102 DIL	(37 - 137)
	81 DIL	(37 - 137)
Phenol-d5	74 DIL	(25 - 115)
	61 DIL	(25 - 115)
2-Fluorophenol	85 DIL	(11 - 116)
	65 DIL	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C110204      Work Order #...: G52ND1AQ-MS      Matrix.....: SO  
MS Lot-Sample #: A5C110204-001      G52ND1AR-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	34 DIL, 30 DIL,	(35 - 116) (35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.
- a Spiked analyte recovery is outside stated control limits.
  - \* Surrogate recovery is outside stated control limits.
  - p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C110204

Matrix.....: SOLID

Date Sampled...: 03/03/05

Date Received...: 03/08/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C080346-001 Prep Batch #...: 5075018

Leach Date.....: 03/14/05 Leach Batch #...: P507306

Arsenic	103	(50 - 150)			SW846 6010B	03/16/05	G5RDT1AN
	104	(50 - 150)	0.56	(0-20)	SW846 6010B	03/16/05	G5RDT1AP

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C110204

Work Order #...: G5F8F-SMP  
G5F8F-DUP

Matrix.....: SOLID

Date Sampled...: 03/02/05 08:35    Date Received...: 03/03/05

% Moisture.....: 8.9

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	91.1	91.5	%	0.42	(0-20)	SD Lot-Sample #: A5C030182-007 MCAWW 160.3 MOD	03/11-03/14/05	5070524
Dilution Factor: 1								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C110204

Work Order #...: G5TR3-SMP  
G5TR3-DUP

Matrix.....: SOLID

Date Sampled...: 03/07/05 12:45    Date Received...: 03/09/05

% Moisture.....: 11

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	89.2	86.6	%	3.0	(0-20)	MCAWW 160.3 MOD	03/11-03/14/05	5070524
							SD Lot-Sample #: A5C090137-013	
Dilution Factor: 1								



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan MCP Cole Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *HL & HL* PRINTED NAME: Pritesh Patel

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
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3/10/05 11:15 S-O31005-PP-059

Soil

2

XX X

2-31

MP Veg Site  
MCP Cole Site

TOTAL NUMBER OF CONTAINERS

2 WK TAT

RELINQUISHED BY: *HL & HL* DATE: 3-10-05 TIME: 1500 RECEIVED BY: *Diana Miter* DATE: 3-11-05 TIME: 10:00

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: FEDEX AIR BILL No. 8490 1342 6644

White -Fully Executed Copy  
 Yellow -Receiving Laboratory Copy  
 Pink -Shipper Copy  
 Goldenrod -Sampler Copy

SAMPLE TEAM: P. PATIL

RECEIVED FOR LABORATORY BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

13034

**STL Cooler Receipt Form/Narrative**

Lot Number: ASC110204

**North Canton Facility**

Client: OZA  
Cooler Received on: 3-11-05

Project: \_\_\_\_\_  
Opened on: 3-11-05

Quote#: 48891  
by: Diana Miles  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_

Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 5.4 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C160170

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 24, 2005

## **CASE NARRATIVE**

A5C160170

The following report contains the analytical results for six solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 16, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 23, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 0.6°C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-031505-PP-246, S-031505-PP-249, S-031505-PP-250, and S-031505-PP-251 due to high analyte concentrations.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C160170

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-031505-PP-246 03/15/05 10:16 001</b>				
Arsenic	41.5	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1800	1500	ug/kg	SW846 8270C
Dibenzofuran	2100	1500	ug/kg	SW846 8270C
Naphthalene	19000 E	1500	ug/kg	SW846 8270C
Benzo(a)anthracene	1900	1500	ug/kg	SW846 8270C
Naphthalene	100000	39000	ug/kg	SW846 8270C
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD
<b>S-031505-PP-247 03/15/05 10:22 002</b>				
Arsenic	308	1.2	mg/kg	SW846 6010B
Naphthalene	5100	1600	ug/kg	SW846 8270C
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD
<b>S-031505-PP-248 03/15/05 10:19 003</b>				
Arsenic	147	1.2	mg/kg	SW846 6010B
Naphthalene	26000	8000	ug/kg	SW846 8270C
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD
<b>S-031505-PP-249 03/15/05 10:28 004</b>				
Arsenic	6.7	1.2	mg/kg	SW846 6010B
Naphthalene	2600000 E	160000	ug/kg	SW846 8270C
Naphthalene	3600000	800000	ug/kg	SW846 8270C
Percent Solids	82.6	10.0	%	MCAWW 160.3 MOD
<b>S-031505-PP-250 03/15/05 10:31 005</b>				
Arsenic	5.5	1.1	mg/kg	SW846 6010B
Naphthalene	280000 E	29000	ug/kg	SW846 8270C
Naphthalene	470000	140000	ug/kg	SW846 8270C
Percent Solids	91.4	10.0	%	MCAWW 160.3 MOD
<b>S-031505-PP-251 03/15/05 10:35 006</b>				
Arsenic	39.5	1.1	mg/kg	SW846 6010B
Dibenzofuran	260000	150000	ug/kg	SW846 8270C
Naphthalene	2400000 E	150000	ug/kg	SW846 8270C
Naphthalene	2800000	920000	ug/kg	SW846 8270C
Percent Solids	89.4	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C160170

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C160170

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6AXE	001	S-031505-PP-246	03/15/05	10:16
G6AXM	002	S-031505-PP-247	03/15/05	10:22
G6AXN	003	S-031505-PP-248	03/15/05	10:19
G6AXP	004	S-031505-PP-249	03/15/05	10:28
G6AXT	005	S-031505-PP-250	03/15/05	10:31
G6AXV	006	S-031505-PP-251	03/15/05	10:35

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-246

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-001    Work Order #...: G6AXE1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:16    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 4  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>1800</b>	<b>1500</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
<b>Dibenzofuran</b>	<b>2100</b>	<b>1500</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
<b>Naphthalene</b>	<b>19000 E</b>	<b>1500</b>	<b>ug/kg</b>
<b>Benzo(a)anthracene</b>	<b>1900</b>	<b>1500</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	11 DIL, *	(42 - 110)
2-Fluorobiphenyl	12 DIL, *	(43 - 110)
Terphenyl-d14	13 DIL, *	(37 - 137)
Phenol-d5	11 DIL, *	(25 - 115)
2-Fluorophenol	11 DIL	(11 - 116)
2,4,6-Tribromophenol	15 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-246

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-001    Work Order #...: G6AXE2AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:16    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/21/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 100  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	39000	ug/kg
Benzo(a)pyrene	ND	39000	ug/kg
Dibenz(a,h)anthracene	ND	39000	ug/kg
Dibenzofuran	ND	39000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	39000	ug/kg
4-Methylphenol	ND	39000	ug/kg
<b>Naphthalene</b>	<b>100000</b>	<b>39000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	39000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-246

TOTAL Metals

Lot-Sample #...: A5C160170-001

Matrix.....: SO

Date Sampled...: 03/15/05 10:16 Date Received...: 03/16/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	41.5	1.2	mg/kg	SW846 6010B	03/17-03/18/05	G6AXE1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-246

General Chemistry

Lot-Sample #...: A5C160170-001    Work Order #...: G6AXE    Matrix.....: SO  
Date Sampled...: 03/15/05 10:16    Date Received..: 03/16/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-247

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-002    Work Order #...: G6AXM1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:22    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 4  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1600	ug/kg
Benzo(a)pyrene	ND	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
<b>Naphthalene</b>	<b>5100</b>	<b>1600</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	69 DIL	(37 - 137)
Phenol-d5	62 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	73 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-247

TOTAL Metals

Lot-Sample #...: A5C160170-002

Matrix.....: SO

Date Sampled...: 03/15/05 10:22 Date Received...: 03/16/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	308	1.2	mg/kg	SW846 6010B	03/17-03/18/05	G6AXM1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-247

General Chemistry

Lot-Sample #...: A5C160170-002    Work Order #...: G6AXM    Matrix.....: SO  
Date Sampled...: 03/15/05 10:22    Date Received..: 03/16/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.0	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-248

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-003    Work Order #...: G6AXN1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:19    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 20  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	8000	ug/kg
Benzo(a)pyrene	ND	8000	ug/kg
Dibenz(a,h)anthracene	ND	8000	ug/kg
Dibenzofuran	ND	8000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	8000	ug/kg
4-Methylphenol	ND	8000	ug/kg
<b>Naphthalene</b>	<b>26000</b>	<b>8000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	8000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	43 DIL	(11 - 116)
2,4,6-Tribromophenol	31 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-248

TOTAL Metals

Lot-Sample #...: A5C160170-003

Matrix.....: SO

Date Sampled...: 03/15/05 10:19 Date Received...: 03/16/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	147	1.2	mg/kg	SW846 6010B	03/17-03/18/05	G6AXN1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-248

General Chemistry

Lot-Sample #...: A5C160170-003    Work Order #...: G6AXN    Matrix.....: SO  
Date Sampled...: 03/15/05 10:19    Date Received..: 03/16/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-249

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-004    Work Order #...: G6AXP1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:28    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 400  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	ND	160000	ug/kg
Benzo(a)pyrene	ND	160000	ug/kg
Dibenz(a,h)anthracene	ND	160000	ug/kg
Dibenzofuran	ND	160000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	160000	ug/kg
4-Methylphenol	ND	160000	ug/kg
<b>Naphthalene</b>	<b>2600000 E</b>	<b>160000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	160000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-249

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-004    Work Order #...: G6AXP2AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:28    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/21/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 2000  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	ND	800000	ug/kg
Benzo(a)pyrene	ND	800000	ug/kg
Dibenz(a,h)anthracene	ND	800000	ug/kg
Dibenzofuran	ND	800000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	800000	ug/kg
4-Methylphenol	ND	800000	ug/kg
<b>Naphthalene</b>	<b>3600000</b>	<b>800000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	800000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-249

TOTAL Metals

Lot-Sample #...: A5C160170-004

Matrix.....: SO

Date Sampled...: 03/15/05 10:28 Date Received...: 03/16/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	6.7	1.2	mg/kg	SW846 6010B	03/17-03/18/05	G6AXP1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-249

General Chemistry

Lot-Sample #...: A5C160170-004    Work Order #...: G6AXP    Matrix.....: SO  
Date Sampled...: 03/15/05 10:28    Date Received..: 03/16/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.6	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-250

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-005    Work Order #...: G6AXT1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:31    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 80  
 % Moisture.....: 8.6    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	29000	ug/kg
Benzo(a)pyrene	ND	29000	ug/kg
Dibenz(a,h)anthracene	ND	29000	ug/kg
Dibenzofuran	ND	29000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	29000	ug/kg
4-Methylphenol	ND	29000	ug/kg
<b>Naphthalene</b>	<b>280000 E</b>	<b>29000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	29000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-250

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-005    Work Order #...: G6AXT2AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:31    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/21/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 400  
 % Moisture.....: 8.6    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	140000	ug/kg
Benzo(a)pyrene	ND	140000	ug/kg
Dibenz(a,h)anthracene	ND	140000	ug/kg
Dibenzofuran	ND	140000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	140000	ug/kg
4-Methylphenol	ND	140000	ug/kg
<b>Naphthalene</b>	<b>470000</b>	<b>140000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	140000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-250

TOTAL Metals

Lot-Sample #...: A5C160170-005

Matrix.....: SO

Date Sampled...: 03/15/05 10:31 Date Received...: 03/16/05

% Moisture.....: 8.6

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	5.5	1.1	mg/kg	SW846 6010B	03/17-03/18/05	G6AXT1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-250

General Chemistry

Lot-Sample #...: A5C160170-005    Work Order #...: G6AXT    Matrix.....: SO  
Date Sampled...: 03/15/05 10:31    Date Received..: 03/16/05  
% Moisture.....: 8.6

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	91.4	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-251

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-006    Work Order #...: G6AXV1AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:35    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/18/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 400  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	150000	ug/kg
Benzo(a)pyrene	ND	150000	ug/kg
Dibenz(a,h)anthracene	ND	150000	ug/kg
<b>Dibenzofuran</b>	<b>260000</b>	<b>150000</b>	<b>ug/kg</b>
Indeno(1,2,3-cd)pyrene	ND	150000	ug/kg
4-Methylphenol	ND	150000	ug/kg
<b>Naphthalene</b>	<b>2400000 E</b>	<b>150000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	150000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-251

GC/MS Semivolatiles

Lot-Sample #...: A5C160170-006    Work Order #...: G6AXV2AD    Matrix.....: SO  
 Date Sampled...: 03/15/05 10:35    Date Received...: 03/16/05  
 Prep Date.....: 03/16/05    Analysis Date...: 03/22/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 2500  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	920000	ug/kg
Benzo(a)pyrene	ND	920000	ug/kg
Dibenz(a,h)anthracene	ND	920000	ug/kg
Dibenzofuran	ND	920000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	920000	ug/kg
4-Methylphenol	ND	920000	ug/kg
<b>Naphthalene</b>	<b>2800000</b>	<b>920000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	920000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-251

TOTAL Metals

Lot-Sample #...: A5C160170-006

Matrix.....: SO

Date Sampled...: 03/15/05 10:35 Date Received...: 03/16/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5076018

Arsenic	39.5	1.1	mg/kg	SW846 6010B	03/17-03/18/05	G6AXV1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031505-PP-251

General Chemistry

Lot-Sample #...: A5C160170-006    Work Order #...: G6AXV    Matrix.....: SO  
Date Sampled...: 03/15/05 10:35    Date Received..: 03/16/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.4	10.0	%	MCAWW 160.3 MOD	03/16-03/17/05	5075434

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C160170  
MB Lot-Sample #: A5C160000-415

Work Order #...: G6C4J1AA

Matrix.....: SOLID

Prep Date.....: 03/16/05

Analysis Date..: 03/17/05

Prep Batch #...: 5075415

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	64	( 42 - 110)
2-Fluorobiphenyl	62	( 43 - 110)
Terphenyl-d14	76	( 37 - 137)
Phenol-d5	67	( 25 - 115)
2-Fluorophenol	67	( 11 - 116)
2,4,6-Tribromophenol	65	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C160170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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**MB Lot-Sample #:** A5C170000-018 **Prep Batch #...:** 5076018  
Arsenic ND 1.0 mg/kg SW846 6010B 03/17-03/18/05 G6ED11AA  
Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C160170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G6C0K1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C160000-434 03/16-03/17/05	5075434
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C160170      Work Order #...: G6C4J1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C160000-415      G6C4J1AD-LCSD  
 Prep Date.....: 03/16/05      Analysis Date...: 03/17/05  
 Prep Batch #...: 5075415  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	81	(45 - 110)			SW846 8270C
	78	(45 - 110)	4.4	(0-54)	SW846 8270C
Acenaphthene	81	(44 - 110)			SW846 8270C
	76	(44 - 110)	6.9	(0-44)	SW846 8270C
2,4-Dinitrotoluene	83	(48 - 111)			SW846 8270C
	78	(48 - 111)	6.6	(0-45)	SW846 8270C
Pyrene	87	(42 - 122)			SW846 8270C
	82	(42 - 122)	5.7	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl- amine	90	(38 - 110)			SW846 8270C
	87	(38 - 110)	4.1	(0-50)	SW846 8270C
1,4-Dichlorobenzene	90	(38 - 110)			SW846 8270C
	88	(38 - 110)	2.8	(0-59)	SW846 8270C
Pentachlorophenol	67	(10 - 123)			SW846 8270C
	55	(10 - 123)	19	(0-87)	SW846 8270C
Phenol	80	(35 - 110)			SW846 8270C
	77	(35 - 110)	3.8	(0-50)	SW846 8270C
2-Chlorophenol	79	(43 - 110)			SW846 8270C
	75	(43 - 110)	4.6	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	82	(43 - 110)			SW846 8270C
	78	(43 - 110)	5.6	(0-55)	SW846 8270C
4-Nitrophenol	72	(22 - 128)			SW846 8270C
	66	(22 - 128)	9.8	(0-64)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	78	(42 - 110)
	78	(42 - 110)
2-Fluorobiphenyl	75	(43 - 110)
	72	(43 - 110)
Terphenyl-d14	87	(37 - 137)
	85	(37 - 137)
Phenol-d5	82	(25 - 115)
	82	(25 - 115)
2-Fluorophenol	83	(11 - 116)
	81	(11 - 116)
2,4,6-Tribromophenol	84	(35 - 116)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C160170

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C170000-018 Prep Batch #...: 5076018

Arsenic 91 (80 - 120) SW846 6010B 03/17-03/18/05 G6ED11AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C160170

Matrix.....: SO

Date Sampled...: 03/15/05 10:16 Date Received...: 03/16/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C160170-001 Prep Batch #...: 5076018

Arsenic	91	(75 - 125)			SW846 6010B	03/17-03/18/05	G6AXE1AE
	86	(75 - 125)	4.6	(0-20)	SW846 6010B	03/17-03/18/05	G6AXE1AF

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C160170

Work Order #...: G53VA-SMP  
G53VA-DUP

Matrix.....: SOLID

Date Sampled...: 03/09/05

Date Received...: 03/10/05

% Moisture.....: 0.69

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	99.3	98.9	%	0.43	(0-20)	SD Lot-Sample #: A5C110314-009 MCAWW 160.3 MOD	03/16-03/17/05	5075434
Dilution Factor: 1								

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A5C160170

Work Order #...: G570V-SMP  
G570V-DUP

Matrix.....: SOLID

Date Sampled...: 03/14/05 12:30

Date Received...: 03/15/05

% Moisture.....: 7.4

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	92.6	93.5	%	0.96	(0-20)	SD Lot-Sample #: A5C150107-004 MCAWW 160.3 MOD	03/16-03/17/05	5075434
Dilution Factor: 1								



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan MAP Cattle Site

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: Pritesh Pathak

PARAMETERS: *[Handwritten list]*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS
	3/1/65	10:14	S-03/505-PP-246	Soil	1	X
	3/1/65	10:22	S-03/505-PP-247	Soil	1	X
	3/1/65	10:19	S-03/505-PP-248	Soil	1	X
	3/1/65	10:28	S-03/505-PP-249	Soil	1	X
	3/1/65	10:31	S-03/505-PP-250	Soil	1	X
	3/1/65	10:35	S-03/505-PP-251	Soil	1	X

TOTAL NUMBER OF CONTAINERS 6 & WEEK TAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 3/1/65	RECEIVED BY: <i>[Signature]</i>	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____

METHOD OF SHIPMENT: FEDEX AIR BILL No. 8490 1342 6655

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: *[Signature]*

RECEIVED FOR LABORATORY BY: *[Signature]* 13035  
 DATED 3-10-05 TIME 945

**STL Cooler Receipt Form/Narrative**

Lot Number: ASC1100170

**North Canton Facility**

Client: ORCA Project: \_\_\_\_\_  
 Cooler Received on: 3-16-05 Opened on: 3-16-05

Quote#: \_\_\_\_\_  
 by: Anne Sanders  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 0.1°C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet

recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH;  
 Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

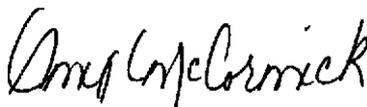
WAUKEGAN MGP COKE SITE

Lot #: A5C180161

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 24, 2005

# **CASE NARRATIVE**

A5C180161

The following report contains the analytical results for two solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 18, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 24, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 1.7°C.

### **GC/MS VOLATILES**

Samples S-031705-PP-061 and S-031705-PP-063 had elevated reporting limits due to TICs.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C180161

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-031705-PP-061 03/17/05 12:05 001				
Benzene	0.68	0.17	mg/L	SW846 8260B

# ANALYTICAL METHODS SUMMARY

A5C180161

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C180161

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6HTA	001	S-031705-PP-061	03/17/05	12:05
G6HTV	002	S-031705-PP-063	03/17/05	12:10

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031705-PP-061

TCLP GC/MS Volatiles

Lot-Sample #...: A5C180161-001    Work Order #...: G6HTA1AA    Matrix.....: SO  
Date Sampled...: 03/17/05 12:05    Date Received..: 03/18/05  
Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date..: 03/22/05  
Leach Batch #..: P508105    Prep Batch #...: 5081371  
Dilution Factor: 6.67  
% Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Benzene	0.68	0.17	mg/L

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	101	(86 - 125)
1,2-Dichloroethane-d4	99	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
Elevated reporting limits due to TICs.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031705-PP-063

TCLP GC/MS Volatiles

Lot-Sample #...: A5C180161-002    Work Order #...: G6HTV1AA    Matrix.....: SO  
Date Sampled...: 03/17/05 12:10    Date Received..: 03/18/05  
Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date..: 03/22/05  
Leach Batch #..: P508105    Prep Batch #...: 5081371  
Dilution Factor: 5  
% Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.12	mg/L

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	100	(86 - 125)
1,2-Dichloroethane-d4	100	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
Elevated reporting limits due to TICs.

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C180161      Work Order #...: G6N761AA      Matrix.....: SOLID  
MB Lot-Sample #: A5C220000-035  
Leach Date.....: 03/21/05      Prep Date.....: 03/22/05      Analysis Date..: 03/22/05  
Leach Batch #..: P508105      Prep Batch #...: 5081371  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
Benzene	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	94	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C180161      Work Order #...: G6QE51AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C220000-371      G6QE51AC-LCSD  
 Prep Date.....: 03/22/05      Analysis Date...: 03/22/05  
 Prep Batch #...: 5081371  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	100	(76 - 118)			SW846 8260B
	98	(76 - 118)	2.4	(0-30)	SW846 8260B
1,1-Dichloroethene	100	(67 - 128)			SW846 8260B
	94	(67 - 128)	5.4	(0-30)	SW846 8260B
Trichloroethene	105	(76 - 119)			SW846 8260B
	103	(76 - 119)	1.6	(0-30)	SW846 8260B
Toluene	85	(72 - 117)			SW846 8260B
	83	(72 - 117)	2.5	(0-30)	SW846 8260B
Chlorobenzene	97	(76 - 113)			SW846 8260B
	94	(76 - 113)	3.6	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 124)
	100	(86 - 124)
1,2-Dichloroethane-d4	95	(80 - 122)
	97	(80 - 122)
Toluene-d8	102	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)
	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C180161      Work Order #...: G6LL51AG-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C190174-001      G6LL51AH-MSD  
 Date Sampled...: 03/18/05 12:15      Date Received...: 03/19/05  
 Leach Date.....: 03/21/05      Prep Date.....: 03/22/05      Analysis Date...: 03/22/05  
 Leach Batch #...: P508105      Prep Batch #...: 5081371  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
Benzene	97	(76 - 117)			SW846 8260B
	95	(76 - 117)	2.8	(0-30)	SW846 8260B
1,1-Dichloroethene	91	(67 - 129)			SW846 8260B
	91	(67 - 129)	0.32	(0-30)	SW846 8260B
Trichloroethene	99	(72 - 121)			SW846 8260B
	95	(72 - 121)	4.4	(0-30)	SW846 8260B
Toluene	81	(67 - 113)			SW846 8260B
	76	(67 - 113)	5.2	(0-30)	SW846 8260B
Chlorobenzene	91	(72 - 114)			SW846 8260B
	86	(72 - 114)	5.6	(0-30)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	100	(86 - 125)
	99	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
	98	(80 - 122)
Toluene-d8	103	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)
	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters



**STL Cooler Receipt Form/Narrative**

Lot Number: ASC180161

**North Canton Facility**

Client: CKA Project: Waukegan MGP Quote#: \_\_\_\_\_  
 Cooler Received on: 3-18-05 Opened on: 3-18-05 by: J. J. Miller  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA   
 2. Shipper's packing slip attached to this form? Yes  No  NA   
 3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No   
 4. Did you sign the custody papers in the appropriate place? Yes  No   
 5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_  
 6. Cooler temperature upon receipt 1.7 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None   
 7. Did all bottles arrive in good condition (Unbroken)? Yes  No   
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No   
 9. Were samples at the correct pH? (record below/on back) Yes  No  NA   
 10. Were correct bottles used for the tests indicated? Yes  No   
 11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA   
 12. Sufficient quantity received to perform indicated analyses? Yes  No   
 Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
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## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C190174

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 29, 2005

# CASE NARRATIVE

A5C190174

The following report contains the analytical results for two solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 19, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 28, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 28.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.3°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Surrogate recoveries were outside acceptance limits in samples S-031805-PP-065 and S-031805-PP-067. Re-extraction and/or reanalysis achieved similar results confirming probable matrix interference; therefore, the original data has been reported.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C190174

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
NO DETECTABLE PARAMETERS				

# ANALYTICAL METHODS SUMMARY

A5C190174

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Volatile Organics by GC/MS	SW846 8260B

## References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C190174

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6LL5	001	S-031805-PP-065	03/18/05	12:15
G6LMG	002	S-031805-PP-067	03/18/05	12:25

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-065

TCLP GC/MS Volatiles

Lot-Sample #...: A5C190174-001    Work Order #...: G6LL51AA    Matrix.....: SO  
 Date Sampled...: 03/18/05 12:15    Date Received..: 03/19/05  
 Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date...: 03/22/05  
 Leach Batch #..: P508105    Prep Batch #...: 5081371  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	93	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-065

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C190174-001    Work Order #...: G6LL51AD    Matrix.....: SO  
 Date Sampled...: 03/18/05 12:15    Date Received..: 03/19/05  
 Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date..: 03/24/05  
 Leach Batch #..: P508101    Prep Batch #...: 5081161  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69	(32 - 112)
2-Fluorobiphenyl	59	(30 - 110)
Terphenyl-d14	86	(10 - 144)
Phenol-d5	6.0 *	(10 - 113)
2-Fluorophenol	3.6 *	(13 - 110)
2,4,6-Tribromophenol	12 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-065

TCLP Metals

Lot-Sample #...: A5C190174-001

Matrix.....: SO

Date Sampled...: 03/18/05 12:15 Date Received...: 03/19/05

Leach Date.....: 03/21/05 Leach Batch #...: P508101

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5082019						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/23/05	G6LL51AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-067

TCLP GC/MS Volatiles

Lot-Sample #...: A5C190174-002    Work Order #...: G6LMG1AA    Matrix.....: SO  
 Date Sampled...: 03/18/05 12:25    Date Received...: 03/19/05  
 Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date...: 03/22/05  
 Leach Batch #..: P508105    Prep Batch #...: 5081371  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	95	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-067

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C190174-002    Work Order #...: G6LMG1AD    Matrix.....: SO  
 Date Sampled...: 03/18/05 12:25    Date Received..: 03/19/05  
 Leach Date.....: 03/21/05    Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Leach Batch #..: P508101    Prep Batch #...: 5081161  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	67	(32 - 112)
2-Fluorobiphenyl	61	(30 - 110)
Terphenyl-d14	91	(10 - 144)
Phenol-d5	14	(10 - 113)
2-Fluorophenol	4.3 *	(13 - 110)
2,4,6-Tribromophenol	15 *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-031805-PP-067

TCLP Metals

Lot-Sample #...: A5C190174-002

Matrix.....: SO

Date Sampled...: 03/18/05 12:25 Date Received...: 03/19/05

Leach Date.....: 03/21/05 Leach Batch #...: P508101

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5082019						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/23/05	G6LMG1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C190174      Work Order #...: G6N761AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C220000-035  
 Leach Date.....: 03/21/05      Prep Date.....: 03/22/05      Analysis Date..: 03/22/05  
 Leach Batch #..: P508105      Prep Batch #...: 5081371  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	97	(86 - 125)
1,2-Dichloroethane-d4	95	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	94	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C190174      Work Order #...: G6PPT1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C220000-161  
 Leach Date.....: 03/21/05      Prep Date.....: 03/22/05      Analysis Date..: 03/24/05  
 Leach Batch #..: P508101      Prep Batch #...: 5081161  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	63	( 32 - 112)
2-Fluorobiphenyl	54	( 30 - 110)
Terphenyl-d14	77	( 10 - 144)
Phenol-d5	47	( 10 - 113)
2-Fluorophenol	49	( 13 - 110)
2,4,6-Tribromophenol	62	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C190174

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C220000-026		<b>Prep Batch #...:</b> 5082019				
<b>Leach Date.....:</b> 03/21/05		<b>Leach Batch #...:</b> P508101				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/23/05	G6N7T1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C190174

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C230000-019		<b>Prep Batch #...</b> : 5082019				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/23/05	G6RJN1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**LABORATORY CONTROL SAMPLE EVALUATION REPORT**

**GC/MS Volatiles**

Client Lot #...: A5C190174      Work Order #...: G6QE51AA-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C220000-371      G6QE51AC-LCSD  
 Prep Date.....: 03/22/05      Analysis Date...: 03/22/05  
 Prep Batch #...: 5081371  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
<b>Benzene</b>	<b>100</b>	<b>(76 - 118)</b>			<b>SW846 8260B</b>
	<b>98</b>	<b>(76 - 118)</b>	<b>2.4</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	<b>97</b>	<b>(76 - 113)</b>			<b>SW846 8260B</b>
	<b>94</b>	<b>(76 - 113)</b>	<b>3.6</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>1,1-Dichloroethylene</b>	<b>100</b>	<b>(67 - 128)</b>			<b>SW846 8260B</b>
	<b>94</b>	<b>(67 - 128)</b>	<b>5.4</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Trichloroethylene</b>	<b>105</b>	<b>(76 - 119)</b>			<b>SW846 8260B</b>
	<b>103</b>	<b>(76 - 119)</b>	<b>1.6</b>	<b>(0-30)</b>	<b>SW846 8260B</b>
<b>Toluene</b>	<b>85</b>	<b>(72 - 117)</b>			<b>SW846 8260B</b>
	<b>83</b>	<b>(72 - 117)</b>	<b>2.5</b>	<b>(0-30)</b>	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(86 - 124)
	100	(86 - 124)
1,2-Dichloroethane-d4	95	(80 - 122)
	97	(80 - 122)
Toluene-d8	102	(90 - 122)
	102	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)
	100	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C190174      Work Order #...: G6PPT1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C220000-161      G6PPT1AD-LCSD  
 Prep Date.....: 03/22/05      Analysis Date...: 03/24/05  
 Prep Batch #...: 5081161  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	78	(33 - 115)			SW846 8270C
	69	(33 - 115)	12	(0-31)	SW846 8270C
m-Cresol & p-Cresol	74	(46 - 109)			SW846 8270C
	64	(46 - 109)	15	(0-32)	SW846 8270C
1,4-Dichlorobenzene	70	(28 - 110)			SW846 8270C
	61	(28 - 110)	14	(0-36)	SW846 8270C
2,4-Dinitrotoluene	78	(47 - 131)			SW846 8270C
	76	(47 - 131)	2.6	(0-32)	SW846 8270C
Hexachlorobenzene	80	(57 - 128)			SW846 8270C
	80	(57 - 128)	0.12	(0-22)	SW846 8270C
Hexachlorobutadiene	70	(36 - 116)			SW846 8270C
	60	(36 - 116)	16	(0-32)	SW846 8270C
Hexachloroethane	72	(30 - 110)			SW846 8270C
	63	(30 - 110)	14	(0-33)	SW846 8270C
Nitrobenzene	75	(45 - 130)			SW846 8270C
	69	(45 - 130)	8.3	(0-50)	SW846 8270C
Pentachlorophenol	63	(10 - 140)			SW846 8270C
	60	(10 - 140)	4.9	(0-56)	SW846 8270C
Pyridine	59	(10 - 148)			SW846 8270C
	47	(10 - 148)	22	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	72	(41 - 125)			SW846 8270C
	72	(41 - 125)	0.75	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	68	(46 - 135)			SW846 8270C
	67	(46 - 135)	2.5	(0-27)	SW846 8270C
Cresols (total)	75	(46 - 109)			SW846 8270C
	65	(46 - 109)	14	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	76	(32 - 112)
	71	(32 - 112)
2-Fluorobiphenyl	70	(30 - 110)
	65	(30 - 110)
Terphenyl-d14	84	(10 - 144)
	82	(10 - 144)
Phenol-d5	58	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C190174      Work Order #...: G6PPT1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5C220000-161      G6PPT1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	44	(10 - 113)
2-Fluorophenol	60	(13 - 110)
	51	(13 - 110)
2,4,6-Tribromophenol	68	(21 - 122)
	71	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C190174

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C230000-019	Prep Batch #...:	5082019		
Arsenic	104	(50 - 150)	SW846 6010B	03/23/05	G6RJN1AC
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C190174      Work Order #...: G6LL51AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C190174-001      G6LL51AH-MSD  
 Date Sampled...: 03/18/05 12:15      Date Received...: 03/19/05  
 Leach Date.....: 03/21/05      Prep Date.....: 03/22/05      Analysis Date...: 03/22/05  
 Leach Batch #...: P508105      Prep Batch #...: 5081371  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
Benzene	97	(76 - 117)			SW846 8260B
	95	(76 - 117)	2.8	(0-30)	SW846 8260B
Chlorobenzene	91	(72 - 114)			SW846 8260B
	86	(72 - 114)	5.6	(0-30)	SW846 8260B
1,1-Dichloroethylene	91	(67 - 129)			SW846 8260B
	91	(67 - 129)	0.32	(0-30)	SW846 8260B
Trichloroethylene	99	(72 - 121)			SW846 8260B
	95	(72 - 121)	4.4	(0-30)	SW846 8260B
Toluene	81	(67 - 113)			SW846 8260B
	76	(67 - 113)	5.2	(0-30)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	100	(86 - 125)
	99	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
	98	(80 - 122)
Toluene-d8	103	(90 - 122)
	103	(90 - 122)
4-Bromofluorobenzene	100	(84 - 125)
	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C190174

Matrix.....: SO

Date Sampled...: 03/18/05 12:15 Date Received...: 03/19/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C190174-001 Prep Batch #...: 5082019

Leach Date.....: 03/21/05 Leach Batch #...: P508101

Arsenic	98	(50 - 150)			SW846 6010B	03/23/05	G6LL51AJ
	106	(50 - 150)	7.0	(0-20)	SW846 6010B	03/23/05	G6LL51AK

Dilution Factor: 5

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan MGP Core Site

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE:

*[Signature]*

PRINTED NAME:

Pritesh Pathak

SEQ. No. DATE TIME SAMPLE IDENTIFICATION No.

SAMPLE MATRIX

No. OF CONTAINERS

PARAMETERS  
TEL VOCs  
TEL SUBCS  
TEL ALKALIC

REMARKS

3/18/05 12:15 S-03/1805-PP-085  
3/18/05 12:25 S-03/1805-PP-087

Soil  
Soil

2  
2

X  
X  
X  
X

2-32  
2-33

TOTAL NUMBER OF CONTAINERS

4

2 WEEK TAT

RELINQUISHED BY: *[Signature]*  
RELINQUISHED BY:  
RELINQUISHED BY:

DATE: 3/18/05  
TIME: 15:00

RECEIVED BY:  
RECEIVED BY:  
RECEIVED BY:

DATE:  
DATE:  
DATE:

DATE:  
DATE:  
DATE:

METHOD OF SHIPMENT:

FED EX

AIR BILL No.

8490 1342 6677

- White -Fully Executed Copy
- Yellow -Receiving Laboratory Copy
- Pink -Shipper Copy
- Goldenrod -Sampler Copy

SAMPLE TEAM:

P. PANTHAK

RECEIVED FOR LABORATORY BY:

*[Signature]* 13037

DATE: 3/19/05 TIME: 0925

**STL Cooler Receipt Form/Narrative**

Lot Number: ABC190174

**North Canton Facility**

Client: CRA Project: Waukegan Map Lake Quote#: 62979  
 Cooler Received on: 3/19/05 Opened on: 3/19/05 by: [Signature]  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# 423 Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 3.3 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials

***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 19023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C220166

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 29, 2005

# **CASE NARRATIVE**

A5C220166

The following report contains the analytical results for twelve solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 19023-84. The samples were received March 22, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 28, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 68.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 0.6°C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Sample S-032105-PP-261 had up to one surrogate recovery per fraction outside acceptance limits. However, since the recovery was greater than 10% and all associated QC met criteria, no corrective action was taken.

Internal standard areas were outside acceptance limits for sample S-032105-PP-261 due to matrix effects (1,4-Dichlorobenzene-d4 out low).

Samples S-032105-PP-255, S-032105-PP-258, and S-032105-PP-262 had elevated reporting limits due to matrix interferences.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C220166

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032105-PP-252 03/21/05 10:08 001</b>				
Arsenic	1.8	1.2	mg/kg	SW846 6010B
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-253 03/21/05 10:11 002</b>				
Arsenic	25.8	1.4	mg/kg	SW846 6010B
Benzo(b)fluoranthene	12000	9200	ug/kg	SW846 8270C
Benzo(a)anthracene	12000	9200	ug/kg	SW846 8270C
Percent Solids	71.5	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-254 03/21/05 10:14 003</b>				
Arsenic	8.4	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	490	400	ug/kg	SW846 8270C
Benzo(a)anthracene	500	400	ug/kg	SW846 8270C
Percent Solids	81.8	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-255 03/21/05 10:15 004</b>				
Arsenic	14.4	1.4	mg/kg	SW846 6010B
Percent Solids	73.8	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-256 03/21/05 10:17 005</b>				
Percent Solids	66.0	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-257 03/21/05 10:20 006</b>				
Arsenic	9.0	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	6800	4000	ug/kg	SW846 8270C
Benzo(a)pyrene	4200	4000	ug/kg	SW846 8270C
Benzo(a)anthracene	6100	4000	ug/kg	SW846 8270C
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-258 03/21/05 10:25 007</b>				
Arsenic	6.0	1.3	mg/kg	SW846 6010B
Percent Solids	74.8	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5C220166

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032105-PP-259 03/21/05 10:27 008</b>				
Arsenic	35.7	1.3	mg/kg	SW846 6010B
Percent Solids	76.2	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-260 03/21/05 10:30 009</b>				
Arsenic	24.0	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	150000	75000	ug/kg	SW846 8270C
Benzo(a)pyrene	110000	75000	ug/kg	SW846 8270C
Dibenzofuran	80000	75000	ug/kg	SW846 8270C
Benzo(a)anthracene	160000	75000	ug/kg	SW846 8270C
Percent Solids	88.3	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-261 03/21/05 10:32 010</b>				
Arsenic	64.6	1.3	mg/kg	SW846 6010B
Percent Solids	76.4	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-262 03/21/05 10:35 011</b>				
Arsenic	7.0	1.1	mg/kg	SW846 6010B
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD
<b>S-032105-PP-263 03/21/05 10:38 012</b>				
Arsenic	12.6	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	71000	21000	ug/kg	SW846 8270C
Benzo(a)pyrene	52000	21000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	25000	21000	ug/kg	SW846 8270C
Benzo(a)anthracene	71000	21000	ug/kg	SW846 8270C
Percent Solids	78.1	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C220166

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C220166

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6PRV	001	S-032105-PP-252	03/21/05	10:08
G6PR5	002	S-032105-PP-253	03/21/05	10:11
G6PR8	003	S-032105-PP-254	03/21/05	10:14
G6PR9	004	S-032105-PP-255	03/21/05	10:15
G6PTC	005	S-032105-PP-256	03/21/05	10:17
G6PTD	006	S-032105-PP-257	03/21/05	10:20
G6PTH	007	S-032105-PP-258	03/21/05	10:25
G6PTJ	008	S-032105-PP-259	03/21/05	10:27
G6PTK	009	S-032105-PP-260	03/21/05	10:30
G6PTM	010	S-032105-PP-261	03/21/05	10:32
G6PTN	011	S-032105-PP-262	03/21/05	10:35
G6PTP	012	S-032105-PP-263	03/21/05	10:38
G6PTQ	013	W-032105-PP-508	03/21/05	10:50

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-252

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-001    Work Order #...: G6PRV1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:08    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/25/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	380	ug/kg
Benzo(a)pyrene	ND	380	ug/kg
Dibenz(a,h)anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
Benzo(a)anthracene	ND	380	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79	(42 - 110)
2-Fluorobiphenyl	57	(43 - 110)
Terphenyl-d14	80	(37 - 137)
Phenol-d5	75	(25 - 115)
2-Fluorophenol	71	(11 - 116)
2,4,6-Tribromophenol	66	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-252

TOTAL Metals

Lot-Sample #...: A5C220166-001

Matrix.....: SO

Date Sampled...: 03/21/05 10:08 Date Received...: 03/22/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	1.8	1.2	mg/kg	SW846 6010B	03/23-03/24/05	G6PRV1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-252

General Chemistry

Lot-Sample #...: A5C220166-001    Work Order #...: G6PRV    Matrix.....: SO  
Date Sampled...: 03/21/05 10:08    Date Received..: 03/22/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-253

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-002    Work Order #...: G6PR51AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:11    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 20  
 % Moisture.....: 29    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>12000</b>	<b>9200</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	9200	ug/kg
Dibenz(a,h)anthracene	ND	9200	ug/kg
Dibenzofuran	ND	9200	ug/kg
Indeno(1,2,3-cd)pyrene	ND	9200	ug/kg
4-Methylphenol	ND	9200	ug/kg
Naphthalene	ND	9200	ug/kg
<b>Benzo(a)anthracene</b>	<b>12000</b>	<b>9200</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	83 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	37 DIL	(11 - 116)
2,4,6-Tribromophenol	36 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-253

TOTAL Metals

Lot-Sample #...: A5C220166-002

Matrix.....: SO

Date Sampled...: 03/21/05 10:11 Date Received...: 03/22/05

% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	25.8	1.4	mg/kg	SW846 6010B	03/23-03/24/05	G6PR51AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-253

General Chemistry

Lot-Sample #...: A5C220166-002    Work Order #...: G6PR5    Matrix.....: SO  
Date Sampled...: 03/21/05 10:11    Date Received..: 03/22/05  
% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	71.5	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-254

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-003    Work Order #...: G6PR81AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:14    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>490</b>	<b>400</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	400	ug/kg
Dibenz(a,h)anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd)pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
<b>Benzo(a)anthracene</b>	<b>500</b>	<b>400</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	(42 - 110)
2-Fluorobiphenyl	63	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	66	(25 - 115)
2-Fluorophenol	51	(11 - 116)
2,4,6-Tribromophenol	46	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-254

TOTAL Metals

Lot-Sample #...: A5C220166-003

Matrix.....: SO

Date Sampled...: 03/21/05 10:14 Date Received...: 03/22/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	8.4	1.2	mg/kg	SW846 6010B	03/23-03/24/05	G6PR81AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-254

General Chemistry

Lot-Sample #...: A5C220166-003    Work Order #...: G6PR8    Matrix.....: SO  
Date Sampled...: 03/21/05 10:14    Date Received..: 03/22/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.8	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-255

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-004    Work Order #...: G6PR91AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:15    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 4  
 % Moisture.....: 26    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1800	ug/kg
Benzo(a)pyrene	ND	1800	ug/kg
Dibenz(a,h)anthracene	ND	1800	ug/kg
Dibenzofuran	ND	1800	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1800	ug/kg
4-Methylphenol	ND	1800	ug/kg
Naphthalene	ND	1800	ug/kg
Benzo(a)anthracene	ND	1800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	87 DIL	(42 - 110)
2-Fluorobiphenyl	65 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	55 DIL	(11 - 116)
2,4,6-Tribromophenol	60 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-255

TOTAL Metals

Lot-Sample #...: A5C220166-004

Matrix.....: SO

Date Sampled...: 03/21/05 10:15 Date Received...: 03/22/05

% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	14.4	1.4	mg/kg	SW846 6010B	03/23-03/24/05	G6PR91AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-255

General Chemistry

Lot-Sample #...: A5C220166-004    Work Order #...: G6PR9    Matrix.....: SO  
Date Sampled...: 03/21/05 10:15    Date Received..: 03/22/05  
% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.8	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-256

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-005    Work Order #...: G6PTC1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:17    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1  
 % Moisture.....: 34    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	500	ug/kg
Benzo(a)pyrene	ND	500	ug/kg
Dibenz(a,h)anthracene	ND	500	ug/kg
Dibenzofuran	ND	500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	500	ug/kg
4-Methylphenol	ND	500	ug/kg
Naphthalene	ND	500	ug/kg
Benzo(a)anthracene	ND	500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	78	(42 - 110)
2-Fluorobiphenyl	55	(43 - 110)
Terphenyl-d14	70	(37 - 137)
Phenol-d5	75	(25 - 115)
2-Fluorophenol	67	(11 - 116)
2,4,6-Tribromophenol	59	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-256

TOTAL Metals

Lot-Sample #...: A5C220166-005

Matrix.....: SO

Date Sampled...: 03/21/05 10:17 Date Received...: 03/22/05

% Moisture.....: 34

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5082024						
Arsenic	ND	1.5	mg/kg	SW846 6010B	03/23-03/24/05	G6PTC1AC
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-256

General Chemistry

Lot-Sample #...: A5C220166-005    Work Order #...: G6PTC    Matrix.....: SO  
Date Sampled...: 03/21/05 10:17    Date Received..: 03/22/05  
% Moisture.....: 34

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	66.0	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-257

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-006    Work Order #...: G6PTD1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:20    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 10  
 % Moisture.....: 17    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	6800	4000	ug/kg
Benzo(a)pyrene	4200	4000	ug/kg
Dibenz(a,h)anthracene	ND	4000	ug/kg
Dibenzofuran	ND	4000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	4000	ug/kg
4-Methylphenol	ND	4000	ug/kg
Naphthalene	ND	4000	ug/kg
Benzo(a)anthracene	6100	4000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	87 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	78 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	47 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-257

TOTAL Metals

Lot-Sample #...: A5C220166-006

Matrix.....: SO

Date Sampled...: 03/21/05 10:20 Date Received...: 03/22/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	9.0	1.2	mg/kg	SW846 6010B	03/23-03/24/05	G6PTD1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-257

General Chemistry

Lot-Sample #...: A5C220166-006    Work Order #...: G6PTD    Matrix.....: SO  
Date Sampled...: 03/21/05 10:20    Date Received..: 03/22/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-258

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-007    Work Order #...: G6PTH1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:25    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 4  
 % Moisture.....: 25    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1800	ug/kg
Benzo(a)pyrene	ND	1800	ug/kg
Dibenz(a,h)anthracene	ND	1800	ug/kg
Dibenzofuran	ND	1800	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1800	ug/kg
4-Methylphenol	ND	1800	ug/kg
Naphthalene	ND	1800	ug/kg
Benzo(a)anthracene	ND	1800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75 DIL	(42 - 110)
2-Fluorobiphenyl	58 DIL	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	58 DIL	(11 - 116)
2,4,6-Tribromophenol	60 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-258

TOTAL Metals

Lot-Sample #...: A5C220166-007

Matrix.....: SO

Date Sampled...: 03/21/05 10:25 Date Received...: 03/22/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	6.0	1.3	mg/kg	SW846 6010B	03/23-03/24/05	G6PTH1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-258

General Chemistry

Lot-Sample #...: A5C220166-007    Work Order #...: G6PTH    Matrix.....: SO  
Date Sampled...: 03/21/05 10:25    Date Received..: 03/22/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	74.8	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-259

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-008    Work Order #...: G6PTJ1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:27    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	430	ug/kg
Benzo(a)pyrene	ND	430	ug/kg
Dibenz(a,h)anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno(1,2,3-cd)pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo(a)anthracene	ND	430	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	92	(42 - 110)
2-Fluorobiphenyl	64	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	78	(25 - 115)
2-Fluorophenol	72	(11 - 116)
2,4,6-Tribromophenol	70	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-259

TOTAL Metals

Lot-Sample #...: A5C220166-008

Matrix.....: SO

Date Sampled...: 03/21/05 10:27 Date Received...: 03/22/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	35.7	1.3	mg/kg	SW846 6010B	03/23-03/24/05	G6PTJ1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-259

General Chemistry

Lot-Sample #...: A5C220166-008    Work Order #...: G6PTJ    Matrix.....: SO  
Date Sampled...: 03/21/05 10:27    Date Received..: 03/22/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.2	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-260

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-009    Work Order #...: G6PTK1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:30    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/25/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 200  
 % Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	150000	75000	ug/kg
Benzo(a)pyrene	110000	75000	ug/kg
Dibenz(a,h)anthracene	ND	75000	ug/kg
Dibenzofuran	80000	75000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	75000	ug/kg
4-Methylphenol	ND	75000	ug/kg
Naphthalene	ND	75000	ug/kg
Benzo(a)anthracene	160000	75000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-260

TOTAL Metals

Lot-Sample #...: A5C220166-009

Matrix.....: SO

Date Sampled...: 03/21/05 10:30 Date Received...: 03/22/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	24.0	1.1	mg/kg	SW846 6010B	03/23-03/24/05	G6PTK1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-260

General Chemistry

Lot-Sample #...: A5C220166-009    Work Order #...: G6PTK    Matrix.....: SO  
Date Sampled...: 03/21/05 10:30    Date Received..: 03/22/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.3	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-261

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-010    Work Order #...: G6PTM1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:32    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/25/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	430	ug/kg
Benzo(a)pyrene	ND	430	ug/kg
Dibenz(a,h)anthracene	ND	430	ug/kg
Dibenzofuran	ND	430	ug/kg
Indeno(1,2,3-cd)pyrene	ND	430	ug/kg
4-Methylphenol	ND	430	ug/kg
Naphthalene	ND	430	ug/kg
Benzo(a)anthracene	ND	430	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	(42 - 110)
2-Fluorobiphenyl	58	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	54	(25 - 115)
2-Fluorophenol	35	(11 - 116)
2,4,6-Tribromophenol	22 *	(35 - 116)

**NOTE(S):**

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-261

TOTAL Metals

Lot-Sample #...: A5C220166-010

Matrix.....: SO

Date Sampled...: 03/21/05 10:32 Date Received...: 03/22/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	64.6	1.3	mg/kg	SW846 6010B	03/23-03/24/05	G6PTM1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-261

General Chemistry

Lot-Sample #...: A5C220166-010    Work Order #...: G6PTM    Matrix.....: SO  
Date Sampled...: 03/21/05 10:32    Date Received..: 03/22/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.4	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-262

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-011    Work Order #...: G6PTN1AD    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:35    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 4  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1500	ug/kg
Benzo(a)pyrene	ND	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	ND	1500	ug/kg
Benzo(a)anthracene	ND	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	89 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	64 DIL	(25 - 115)
2-Fluorophenol	46 DIL	(11 - 116)
2,4,6-Tribromophenol	40 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-262

TOTAL Metals

Lot-Sample #...: A5C220166-011

Matrix.....: SO

Date Sampled...: 03/21/05 10:35 Date Received...: 03/22/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	7.0	1.1	mg/kg	SW846 6010B	03/23-03/24/05	G6PTN1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-262

General Chemistry

Lot-Sample #...: A5C220166-011    Work Order #...: G6PTN    Matrix.....: SO  
Date Sampled...: 03/21/05 10:35    Date Received..: 03/22/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-263

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-012    Work Order #...: G6PTP1AF    Matrix.....: SO  
 Date Sampled...: 03/21/05 10:38    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 50  
 % Moisture.....: 22    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	71000	21000	ug/kg
Benzo(a)pyrene	52000	21000	ug/kg
Dibenz(a,h)anthracene	ND	21000	ug/kg
Dibenzofuran	ND	21000	ug/kg
Indeno(1,2,3-cd)pyrene	25000	21000	ug/kg
4-Methylphenol	ND	21000	ug/kg
Naphthalene	ND	21000	ug/kg
Benzo(a)anthracene	71000	21000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	104 DIL	(37 - 137)
Phenol-d5	79 DIL	(25 - 115)
2-Fluorophenol	92 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-263

TOTAL Metals

Lot-Sample #...: A5C220166-012

Matrix.....: SO

Date Sampled...: 03/21/05 10:38 Date Received...: 03/22/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5082024

Arsenic	12.6	1.3	mg/kg	SW846 6010B	03/23-03/24/05	G6PTP1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032105-PP-263

General Chemistry

Lot-Sample #...: A5C220166-012    Work Order #...: G6PTP    Matrix.....: SO  
Date Sampled...: 03/21/05 10:38    Date Received..: 03/22/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.1	10.0	%	MCAWW 160.3 MOD	03/22-03/23/05	5081374

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032105-PP-508

GC/MS Semivolatiles

Lot-Sample #...: A5C220166-013    Work Order #...: G6PTQ1AC    Matrix.....: WG  
 Date Sampled...: 03/21/05 10:50    Date Received...: 03/22/05  
 Prep Date.....: 03/22/05    Analysis Date...: 03/23/05  
 Prep Batch #...: 5081223  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	( 32 - 112)
2-Fluorobiphenyl	72	( 30 - 110)
Terphenyl-d14	89	( 10 - 144)
Phenol-d5	77	( 10 - 113)
2-Fluorophenol	74	( 13 - 110)
2,4,6-Tribromophenol	83	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032105-PP-508

TOTAL Metals

Lot-Sample #...: A5C220166-013

Matrix.....: WG

Date Sampled...: 03/21/05 10:50 Date Received...: 03/22/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5082014						
Arsenic	ND	0.010	mg/L	SW846 6010B	03/23/05	G6PTQ1AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166  
MB Lot-Sample #: A5C220000-223

Work Order #...: G6PXX1AA

Matrix.....: WATER

Analysis Date...: 03/23/05  
Dilution Factor: 1

Prep Date.....: 03/22/05

Prep Batch #...: 5081223

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	82	( 32 - 112)
2-Fluorobiphenyl	77	( 30 - 110)
Terphenyl-d14	94	( 10 - 144)
Phenol-d5	78	( 10 - 113)
2-Fluorophenol	79	( 13 - 110)
2,4,6-Tribromophenol	81	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166  
MB Lot-Sample #: A5C220000-359

Work Order #...: G6QEP1AA

Matrix.....: SOLID

Analysis Date...: 03/24/05  
Dilution Factor: 1

Prep Date.....: 03/22/05

Prep Batch #...: 5081359

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	95	( 42 - 110)
2-Fluorobiphenyl	68	( 43 - 110)
Terphenyl-d14	90	( 37 - 137)
Phenol-d5	94	( 25 - 115)
2-Fluorophenol	88	( 11 - 116)
2,4,6-Tribromophenol	73	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C230000-014		<b>Prep Batch #...</b> : 5082014				
Arsenic	ND	0.010	mg/L	SW846 6010B	03/23/05	G6RJF1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C230000-024		<b>Prep Batch #...</b> : 5082024				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/23-03/24/05	G6RJX1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C220166

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G6R0E1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C220000-374 03/22-03/23/05	5081374
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166      Work Order #...: G6PXX1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5C220000-223      G6PXX1AD-LCSD  
 Prep Date.....: 03/22/05      Analysis Date...: 03/23/05  
 Prep Batch #...: 5081223  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	68	(31 - 110)			SW846 8270C
	65	(31 - 110)	4.9	(0-37)	SW846 8270C
Acenaphthene	80	(39 - 118)			SW846 8270C
	78	(39 - 118)	3.3	(0-35)	SW846 8270C
2,4-Dinitrotoluene	78	(47 - 131)			SW846 8270C
	78	(47 - 131)	0.31	(0-32)	SW846 8270C
Pyrene	84	(46 - 130)			SW846 8270C
	86	(46 - 130)	2.2	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl- amine	92	(30 - 115)			SW846 8270C
	89	(30 - 115)	2.9	(0-36)	SW846 8270C
1,4-Dichlorobenzene	77	(28 - 110)			SW846 8270C
	72	(28 - 110)	6.6	(0-36)	SW846 8270C
Pentachlorophenol	69	(10 - 140)			SW846 8270C
	68	(10 - 140)	2.1	(0-56)	SW846 8270C
Phenol	79	(10 - 131)			SW846 8270C
	72	(10 - 131)	8.8	(0-43)	SW846 8270C
2-Chlorophenol	80	(19 - 124)			SW846 8270C
	73	(19 - 124)	9.7	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	71	(29 - 124)			SW846 8270C
	71	(29 - 124)	0.42	(0-55)	SW846 8270C
4-Nitrophenol	69	(19 - 144)			SW846 8270C
	69	(19 - 144)	0.080	(0-34)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	84	(32 - 112)
	78	(32 - 112)
2-Fluorobiphenyl	75	(30 - 110)
	71	(30 - 110)
Terphenyl-d14	86	(10 - 144)
	88	(10 - 144)
Phenol-d5	79	(10 - 113)
	74	(10 - 113)
2-Fluorophenol	73	(13 - 110)
	71	(13 - 110)
2,4,6-Tribromophenol	87	(21 - 122)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166      Work Order #...: G6QEP1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C220000-359  
 Prep Date.....: 03/22/05      Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	72	(45 - 110)	SW846 8270C
Acenaphthene	73	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	76	(48 - 111)	SW846 8270C
Pyrene	80	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	106	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	83	(38 - 110)	SW846 8270C
Pentachlorophenol	36	(10 - 123)	SW846 8270C
Phenol	82	(35 - 110)	SW846 8270C
2-Chlorophenol	70	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	81	(43 - 110)	SW846 8270C
4-Nitrophenol	63	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	89	(42 - 110)
2-Fluorobiphenyl	66	(43 - 110)
Terphenyl-d14	84	(37 - 137)
Phenol-d5	84	(25 - 115)
2-Fluorophenol	79	(11 - 116)
2,4,6-Tribromophenol	69	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C230000-014	Prep Batch #...:	5082014		
Arsenic	91	(80 - 120)	SW846 6010B	03/23/05	G6RJF1AP
		Dilution Factor: 1			

**NOTE(S):**

---

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C230000-024 Prep Batch #...: 5082024

Arsenic 98 (80 - 120) SW846 6010B 03/23-03/24/05 G6RJX1AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166      Work Order #...: G6PTC1AJ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C220166-005      G6PTC1AK-MSD  
 Date Sampled...: 03/21/05 10:17      Date Received...: 03/22/05  
 Prep Date.....: 03/22/05      Analysis Date...: 03/24/05  
 Prep Batch #...: 5081359  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	63	(16 - 121)			SW846 8270C
	69	(16 - 121)	9.0	(0-54)	SW846 8270C
Acenaphthene	66	(13 - 133)			SW846 8270C
	74	(13 - 133)	9.6	(0-44)	SW846 8270C
2,4-Dinitrotoluene	69	(10 - 171)			SW846 8270C
	78	(10 - 171)	13	(0-45)	SW846 8270C
Pyrene	68	(10 - 218)			SW846 8270C
	76	(10 - 218)	11	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	94	(12 - 128)			SW846 8270C
	105	(12 - 128)	11	(0-50)	SW846 8270C
1,4-Dichlorobenzene	72	(18 - 110)			SW846 8270C
	85	(18 - 110)	16	(0-59)	SW846 8270C
Pentachlorophenol	42	(10 - 144)			SW846 8270C
	48	(10 - 144)	13	(0-87)	SW846 8270C
Phenol	74	(10 - 148)			SW846 8270C
	84	(10 - 148)	12	(0-50)	SW846 8270C
2-Chlorophenol	65	(17 - 116)			SW846 8270C
	69	(17 - 116)	7.2	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	74	(17 - 128)			SW846 8270C
	82	(17 - 128)	9.8	(0-55)	SW846 8270C
4-Nitrophenol	59	(10 - 148)			SW846 8270C
	74	(10 - 148)	23	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	83	(42 - 110)
	90	(42 - 110)
2-Fluorobiphenyl	58	(43 - 110)
	65	(43 - 110)
Terphenyl-d14	71	(37 - 137)
	81	(37 - 137)
Phenol-d5	76	(25 - 115)
	90	(25 - 115)
2-Fluorophenol	70	(11 - 116)
	82	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C220166      Work Order #...: G6PTC1AJ-MS      Matrix.....: SO  
MS Lot-Sample #: A5C220166-005      G6PTC1AK-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	62	(35 - 116)
	72	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: WATER

Date Sampled...: 03/21/05 11:10 Date Received...: 03/22/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C220165-001 Prep Batch #...: 5082014

Arsenic	104	(75 - 125)			SW846 6010B	03/23/05	G6PQ51A3
	102	(75 - 125)	1.6	(0-20)	SW846 6010B	03/23/05	G6PQ51A4

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C220166

Matrix.....: SO

Date Sampled...: 03/21/05 10:17 Date Received...: 03/22/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C220166-005 Prep Batch #...: 5082024

Arsenic	93	(75 - 125)			SW846 6010B	03/23-03/24/05	G6PTC1AG
	91	(75 - 125)	1.9	(0-20)	SW846 6010B	03/23-03/24/05	G6PTC1AH

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A5C220166

Work Order #...: G6LNP-SMP  
G6LNP-DUP

Matrix.....: SOLID

Date Sampled...: 03/18/05 08:30 Date Received...: 03/19/05

% Moisture.....: 22

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	77.8	77.4	%	0.44	(0-20)	SD Lot-Sample #: A5C190180-006 MCAWW 160.3 MOD	03/22-03/23/05	5081374
Dilution Factor: 1								





# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

19023-84

PROJECT NAME:

Waukegan MCP GLE Site

## CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE:

*[Signature]*

PRINTED NAME:

P. Ted Athal

SEQ. NO. DATE TIME

SAMPLE IDENTIFICATION NO.

SAMPLE MATRIX

NO. OF CONTAINERS

PARAMETERS

REMARKS

SEQ. NO.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	NO. OF CONTAINERS	PARAMETERS	REMARKS
	3/21/05	10:08	S-032105-PP-	Soil	2	X	
	3/21/05	10:11	S-032105-PP-	Soil	2	X	
	3/21/05	10:14	S-032105-PP-	Soil	2	X	
	3/21/05	10:15	S-032105-PP-	Soil	2	X	
	3/21/05	10:17	S-032105-PP-	Soil	2	X	
	3/21/05	10:20	S-032105-PP-	Soil	2	X	
	3/21/05	10:25	S-032105-PP-	Soil	2	X	
	3/21/05	10:27	S-032105-PP-	Soil	2	X	
	3/21/05	10:30	S-032105-PP-	Soil	2	X	
	3/21/05	10:32	S-032105-PP-	Soil	2	X	
	3/21/05	10:35	S-032105-PP-	Soil	2	X	
	3/21/05	10:38	S-032105-PP-	Soil	2	X	
	3/21/05	10:50	S-032105-PP-	Water	3	X	

TOTAL NUMBER OF CONTAINERS

16 2 WIK TAT

RELINQUISHED BY: *[Signature]* DATE: 3/21/05 TIME: 1:50 RECEIVED BY: DATE: TIME:

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

METHOD OF SHIPMENT: FEDEX

AIR BILL NO. 8490 1342 6666

White -Fully Executed Copy  
Yellow -Receiving Laboratory Copy  
Pink -Shipper Copy  
Goldenrod -Sampler Copy

SAMPLE TEAM: P. PATAHALK

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 3/22/05 TIME: 9:50

**STL Cooler Receipt Form/Narrative**

Lot Number: A5L 220 166

**North Canton Facility**

Client: CFA

Project: WAVKOGAM

Quote#:

Cooler Received on: 3/22/05

Opened on: 3/22/05

by: June Sanders  
(Signature)

Fed:  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# St00 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 0, 0 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM ALM Date: 3-22-05 by: gmr via Voice Mail  Verbal  Other

Concerning: Broken liter

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) 1xL PP-508 were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials
<u>PP-508</u>	<u>7.0</u>	<u>3/22/05</u>	<u>ALM</u>



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

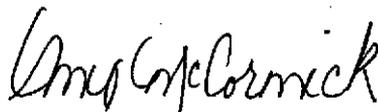
WAUKEGAN MGP COKE SITE

Lot #: A5C230173

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

March 30, 2005

## **CASE NARRATIVE**

A5C220173

The following report contains the analytical results for one water sample submitted to STL North Canton by Timken Research from the Timken Research Site. The sample was received March 22, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Joseph Quinn on March 24, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Roger K. Toth, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 56.

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 11.1°C. without any coolant.

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



Y:\Barb\STL headers\Qc846-Narrative\_060204.doc, Revised06/02/04 DJL

## EXECUTIVE SUMMARY - Detection Highlights

A5C230173

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032205-PP-264 03/22/05 10:18 001</b>				
Arsenic	277	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	3000	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	2200	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	2100	1600	ug/kg	SW846 8270C
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-265 03/22/05 10:27 002</b>				
Arsenic	65.0	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	11000	3900	ug/kg	SW846 8270C
Benzo(a)pyrene	8000	3900	ug/kg	SW846 8270C
Benzo(a)anthracene	8100	3900	ug/kg	SW846 8270C
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-266 03/22/05 10:30 003</b>				
Arsenic	37.9	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	630	410	ug/kg	SW846 8270C
Benzo(a)anthracene	580	410	ug/kg	SW846 8270C
Percent Solids	80.7	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-267 03/22/05 10:32 004</b>				
Arsenic	17.8	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1500	780	ug/kg	SW846 8270C
Benzo(a)pyrene	1100	780	ug/kg	SW846 8270C
Benzo(a)anthracene	1400	780	ug/kg	SW846 8270C
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-268 03/22/05 10:36 005</b>				
Arsenic	32.0	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	27000	8000	ug/kg	SW846 8270C
Benzo(a)pyrene	19000	8000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	9500	8000	ug/kg	SW846 8270C
Benzo(a)anthracene	26000	8000	ug/kg	SW846 8270C
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-269 03/22/05 10:39 006</b>				
Arsenic	41.2	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	7000	1900	ug/kg	SW846 8270C
Benzo(a)pyrene	4700	1900	ug/kg	SW846 8270C

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A5C230173

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032205-PP-269 03/22/05 10:39 006</b>				
Indeno(1,2,3-cd)pyrene	2600	1900	ug/kg	SW846 8270C
Benzo(a)anthracene	6300	1900	ug/kg	SW846 8270C
Percent Solids	87.2	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-270 03/22/05 10:50 007</b>				
Arsenic	33.3	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	270000	180000	ug/kg	SW846 8270C
Naphthalene	370000	180000	ug/kg	SW846 8270C
Benzo(a)anthracene	290000	180000	ug/kg	SW846 8270C
Percent Solids	75.0	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-271 03/22/05 10:52 008</b>				
Arsenic	135	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	7200	2100	ug/kg	SW846 8270C
Benzo(a)pyrene	4800	2100	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2400	2100	ug/kg	SW846 8270C
Benzo(a)anthracene	8800	2100	ug/kg	SW846 8270C
Percent Solids	78.8	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-272 03/22/05 10:54 009</b>				
Arsenic	101	1.4	mg/kg	SW846 6010B
Benzo(b)fluoranthene	14000	4500	ug/kg	SW846 8270C
Benzo(a)pyrene	9400	4500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	5000	4500	ug/kg	SW846 8270C
Naphthalene	10000	4500	ug/kg	SW846 8270C
Benzo(a)anthracene	14000	4500	ug/kg	SW846 8270C
Percent Solids	73.1	10.0	%	MCAWW 160.3 MOD
<b>S-032205-PP-273 03/22/05 10:56 010</b>				
Arsenic	21.3	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	6200	1600	ug/kg	SW846 8270C
Benzo(a)pyrene	4000	1600	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1900	1600	ug/kg	SW846 8270C
Benzo(a)anthracene	6300	1600	ug/kg	SW846 8270C
Percent Solids	80.8	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C230173

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C230173

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6R7T	001	S-032205-PP-264	03/22/05	10:18
G6R80	002	S-032205-PP-265	03/22/05	10:27
G6R81	003	S-032205-PP-266	03/22/05	10:30
G6R82	004	S-032205-PP-267	03/22/05	10:32
G6R84	005	S-032205-PP-268	03/22/05	10:36
G6R85	006	S-032205-PP-269	03/22/05	10:39
G6R86	007	S-032205-PP-270	03/22/05	10:50
G6R87	008	S-032205-PP-271	03/22/05	10:52
G6R88	009	S-032205-PP-272	03/22/05	10:54
G6R89	010	S-032205-PP-273	03/22/05	10:56

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-264

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-001    Work Order #...: G6R7T1AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:18    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 4  
 % Moisture.....: 18    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	3000	1600	ug/kg
Benzo(a)pyrene	2200	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	ND	1600	ug/kg
Benzo(a)anthracene	2100	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	61 DIL	(42 - 110)
2-Fluorobiphenyl	58 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	63 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	69 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-264

TOTAL Metals

Lot-Sample #...: A5C230173-001

Matrix.....: SO

Date Sampled...: 03/22/05 10:18 Date Received...: 03/23/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	277	1.2	mg/kg	SW846 6010B	03/24/05	G6R7T1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-264

General Chemistry

Lot-Sample #...: A5C230173-001    Work Order #...: G6R7T    Matrix.....: SO  
Date Sampled...: 03/22/05 10:18    Date Received..: 03/23/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-265

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-002    Work Order #...: G6R801AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:27    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 10  
 % Moisture.....: 16    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	11000	3900	ug/kg
Benzo(a)pyrene	8000	3900	ug/kg
Dibenz(a,h)anthracene	ND	3900	ug/kg
Dibenzofuran	ND	3900	ug/kg
Indeno(1,2,3-cd)pyrene	ND	3900	ug/kg
4-Methylphenol	ND	3900	ug/kg
Naphthalene	ND	3900	ug/kg
Benzo(a)anthracene	8100	3900	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	71 DIL	(42 - 110)
2-Fluorobiphenyl	65 DIL	(43 - 110)
Terphenyl-d14	80 DIL	(37 - 137)
Phenol-d5	65 DIL	(25 - 115)
2-Fluorophenol	62 DIL	(11 - 116)
2,4,6-Tribromophenol	55 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-265

TOTAL Metals

Lot-Sample #...: A5C230173-002

Matrix.....: SO

Date Sampled...: 03/22/05 10:27 Date Received...: 03/23/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	65.0	1.2	mg/kg	SW846 6010B	03/24/05	G6R801AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-265

General Chemistry

Lot-Sample #...: A5C230173-002    Work Order #...: G6R80    Matrix.....: SO  
Date Sampled...: 03/22/05 10:27    Date Received..: 03/23/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-266

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-003    Work Order #...: G6R811AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:30    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 1  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>630</b>	<b>410</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	410	ug/kg
Dibenz(a,h)anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
<b>Benzo(a)anthracene</b>	<b>580</b>	<b>410</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	91	(37 - 137)
Phenol-d5	73	(25 - 115)
2-Fluorophenol	76	(11 - 116)
2,4,6-Tribromophenol	85	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-266

TOTAL Metals

Lot-Sample #...: A5C230173-003

Matrix.....: SO

Date Sampled...: 03/22/05 10:30 Date Received...: 03/23/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	37.9	1.2	mg/kg	SW846 6010B	03/24/05	G6R811AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-266

General Chemistry

Lot-Sample #...: A5C230173-003    Work Order #...: G6R81    Matrix.....: SO  
Date Sampled...: 03/22/05 10:30    Date Received..: 03/23/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.7	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-267

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-004    Work Order #...: G6R821AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:32    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 2  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	1500	780	ug/kg
Benzo(a)pyrene	1100	780	ug/kg
Dibenz(a,h)anthracene	ND	780	ug/kg
Dibenzofuran	ND	780	ug/kg
Indeno(1,2,3-cd)pyrene	ND	780	ug/kg
4-Methylphenol	ND	780	ug/kg
Naphthalene	ND	780	ug/kg
Benzo(a)anthracene	1400	780	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
Phenol-d5	84 DIL	(25 - 115)
2-Fluorophenol	70 DIL	(11 - 116)
2,4,6-Tribromophenol	74 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-267

TOTAL Metals

Lot-Sample #...: A5C230173-004

Matrix.....: SO

Date Sampled...: 03/22/05 10:32 Date Received...: 03/23/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	17.8	1.2	mg/kg	SW846 6010B	03/24/05	G6R821AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-267

General Chemistry

Lot-Sample #...: A5C230173-004    Work Order #...: G6R82    Matrix.....: SO  
Date Sampled...: 03/22/05 10:32    Date Received..: 03/23/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-268

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-005    Work Order #...: G6R841AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:36    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/25/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 20  
 % Moisture.....: 18    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	27000	8000	ug/kg
Benzo(a)pyrene	19000	8000	ug/kg
Dibenz(a,h)anthracene	ND	8000	ug/kg
Dibenzofuran	ND	8000	ug/kg
Indeno(1,2,3-cd)pyrene	9500	8000	ug/kg
4-Methylphenol	ND	8000	ug/kg
Naphthalene	ND	8000	ug/kg
Benzo(a)anthracene	26000	8000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69 DIL	(42 - 110)
2-Fluorobiphenyl	63 DIL	(43 - 110)
Terphenyl-d14	77 DIL	(37 - 137)
Phenol-d5	72 DIL	(25 - 115)
2-Fluorophenol	64 DIL	(11 - 116)
2,4,6-Tribromophenol	28 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-268

TOTAL Metals

Lot-Sample #...: A5C230173-005

Matrix.....: SO

Date Sampled...: 03/22/05 10:36 Date Received...: 03/23/05

% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5083031						
Arsenic	32.0	1.2	mg/kg	SW846 6010B	03/24/05	G6R841AC

Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-268

General Chemistry

Lot-Sample #...: A5C230173-005    Work Order #...: G6R84    Matrix.....: SO  
Date Sampled...: 03/22/05 10:36    Date Received..: 03/23/05  
% Moisture.....: 18

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.3	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-269

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-006    Work Order #...: G6R851AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:39    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 5  
 % Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	7000	1900	ug/kg
Benzo(a)pyrene	4700	1900	ug/kg
Dibenz(a,h)anthracene	ND	1900	ug/kg
Dibenzofuran	ND	1900	ug/kg
Indeno(1,2,3-cd)pyrene	2600	1900	ug/kg
4-Methylphenol	ND	1900	ug/kg
Naphthalene	ND	1900	ug/kg
Benzo(a)anthracene	6300	1900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85 DIL	(42 - 110)
2-Fluorobiphenyl	84 DIL	(43 - 110)
Terphenyl-d14	101 DIL	(37 - 137)
Phenol-d5	86 DIL	(25 - 115)
2-Fluorophenol	87 DIL	(11 - 116)
2,4,6-Tribromophenol	91 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-269

TOTAL Metals

Lot-Sample #...: A5C230173-006

Matrix.....: SO

Date Sampled...: 03/22/05 10:39 Date Received...: 03/23/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	41.2	1.1	mg/kg	SW846 6010B	03/24/05	G6R851AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-269

General Chemistry

Lot-Sample #...: A5C230173-006    Work Order #...: G6R85    Matrix.....: SO  
Date Sampled...: 03/22/05 10:39    Date Received..: 03/23/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.2	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-270

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-007    Work Order #...: G6R861AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:50    Date Received..: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date..: 03/25/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 400  
 % Moisture.....: 25    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>270000</b>	<b>180000</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	180000	ug/kg
Dibenz(a,h)anthracene	ND	180000	ug/kg
Dibenzofuran	ND	180000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	180000	ug/kg
4-Methylphenol	ND	180000	ug/kg
<b>Naphthalene</b>	<b>370000</b>	<b>180000</b>	<b>ug/kg</b>
<b>Benzo(a)anthracene</b>	<b>290000</b>	<b>180000</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-270

TOTAL Metals

Lot-Sample #...: A5C230173-007

Matrix.....: SO

Date Sampled...: 03/22/05 10:50 Date Received...: 03/23/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	33.3	1.3	mg/kg	SW846 6010B	03/24/05	G6R861AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-270

General Chemistry

Lot-Sample #...: A5C230173-007    Work Order #...: G6R86    Matrix.....: SO  
Date Sampled...: 03/22/05 10:50    Date Received..: 03/23/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	75.0	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-271

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-008    Work Order #...: G6R871AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:52    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 5  
 % Moisture.....: 21    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	7200	2100	ug/kg
Benzo(a)pyrene	4800	2100	ug/kg
Dibenz(a,h)anthracene	ND	2100	ug/kg
Dibenzofuran	ND	2100	ug/kg
Indeno(1,2,3-cd)pyrene	2400	2100	ug/kg
4-Methylphenol	ND	2100	ug/kg
Naphthalene	ND	2100	ug/kg
Benzo(a)anthracene	8800	2100	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	58 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
Phenol-d5	49 DIL	(25 - 115)
2-Fluorophenol	37 DIL	(11 - 116)
2,4,6-Tribromophenol	36 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-271

TOTAL Metals

Lot-Sample #...: A5C230173-008

Matrix.....: SO

Date Sampled...: 03/22/05 10:52 Date Received...: 03/23/05

% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	135	1.3	mg/kg	SW846 6010B	03/24/05	G6R871AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-271

General Chemistry

Lot-Sample #...: A5C230173-008    Work Order #...: G6R87    Matrix.....: SO  
Date Sampled...: 03/22/05 10:52    Date Received..: 03/23/05  
% Moisture.....: 21

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.8	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-272

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-009    Work Order #...: G6R881AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:54    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 10  
 % Moisture.....: 27    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	14000	4500	ug/kg
Benzo(a)pyrene	9400	4500	ug/kg
Dibenz(a,h)anthracene	ND	4500	ug/kg
Dibenzofuran	ND	4500	ug/kg
Indeno(1,2,3-cd)pyrene	5000	4500	ug/kg
4-Methylphenol	ND	4500	ug/kg
Naphthalene	10000	4500	ug/kg
Benzo(a)anthracene	14000	4500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	33 DIL, *	(42 - 110)
2-Fluorobiphenyl	35 DIL, *	(43 - 110)
Terphenyl-d14	38 DIL	(37 - 137)
Phenol-d5	32 DIL	(25 - 115)
2-Fluorophenol	31 DIL	(11 - 116)
2,4,6-Tribromophenol	25 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-272

TOTAL Metals

Lot-Sample #...: A5C230173-009

Matrix.....: SO

Date Sampled...: 03/22/05 10:54 Date Received...: 03/23/05

% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 5083031						
Arsenic	101	1.4	mg/kg	SW846 6010B	03/24/05	G6R881AC

Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-272

General Chemistry

Lot-Sample #...: A5C230173-009    Work Order #...: G6R88    Matrix.....: SO  
Date Sampled...: 03/22/05 10:54    Date Received..: 03/23/05  
% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.1	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-273

GC/MS Semivolatiles

Lot-Sample #...: A5C230173-010    Work Order #...: G6R891AD    Matrix.....: SO  
 Date Sampled...: 03/22/05 10:56    Date Received...: 03/23/05  
 Prep Date.....: 03/23/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 4  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	6200	1600	ug/kg
Benzo(a)pyrene	4000	1600	ug/kg
Dibenz(a,h)anthracene	ND	1600	ug/kg
Dibenzofuran	ND	1600	ug/kg
Indeno(1,2,3-cd)pyrene	1900	1600	ug/kg
4-Methylphenol	ND	1600	ug/kg
Naphthalene	ND	1600	ug/kg
Benzo(a)anthracene	6300	1600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	65 DIL	(42 - 110)
2-Fluorobiphenyl	70 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
Phenol-d5	59 DIL	(25 - 115)
2-Fluorophenol	46 DIL	(11 - 116)
2,4,6-Tribromophenol	48 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-273

TOTAL Metals

Lot-Sample #...: A5C230173-010

Matrix.....: SO

Date Sampled...: 03/22/05 10:56 Date Received...: 03/23/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5083031

Arsenic	21.3	1.2	mg/kg	SW846 6010B	03/24/05	G6R891AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032205-PP-273

General Chemistry

Lot-Sample #...: A5C230173-010    Work Order #...: G6R89    Matrix.....: SO  
Date Sampled...: 03/22/05 10:56    Date Received..: 03/23/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.8	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173  
MB Lot-Sample #: A5C230000-357

Work Order #...: G6T7A1AA

Matrix.....: SOLID

Analysis Date...: 03/24/05  
Dilution Factor: 1

Prep Date.....: 03/23/05

Prep Batch #...: 5082357

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	77	( 42 - 110)
2-Fluorobiphenyl	70	( 43 - 110)
Terphenyl-d14	89	( 37 - 137)
Phenol-d5	80	( 25 - 115)
2-Fluorophenol	77	( 11 - 116)
2,4,6-Tribromophenol	71	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173  
MB Lot-Sample #: A5C230000-358

Work Order #...: G6T6R1AA

Matrix.....: SOLID

Analysis Date...: 03/25/05  
Dilution Factor: 1

Prep Date.....: 03/23/05

Prep Batch #...: 5082358

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	( 42 - 110)
2-Fluorobiphenyl	77	( 43 - 110)
Terphenyl-d14	96	( 37 - 137)
Phenol-d5	83	( 25 - 115)
2-Fluorophenol	80	( 11 - 116)
2,4,6-Tribromophenol	83	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C230173

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5C240000-031		Prep Batch #...: 5083031				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/24/05	G6WJH1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C230173

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G63CV1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C240000-580 03/24-03/25/05	5083580
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173      Work Order #...: G6T7A1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C230000-357  
 Prep Date.....: 03/23/05      Analysis Date...: 03/24/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	81	(45 - 110)	SW846 8270C
Acenaphthene	75	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	75	(48 - 111)	SW846 8270C
Pyrene	79	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	88	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	87	(38 - 110)	SW846 8270C
Pentachlorophenol	48	(10 - 123)	SW846 8270C
Phenol	75	(35 - 110)	SW846 8270C
2-Chlorophenol	75	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	74	(43 - 110)	SW846 8270C
4-Nitrophenol	67	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	78	(42 - 110)
2-Fluorobiphenyl	69	(43 - 110)
Terphenyl-d14	79	(37 - 137)
Phenol-d5	78	(25 - 115)
2-Fluorophenol	73	(11 - 116)
2,4,6-Tribromophenol	71	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173      Work Order #...: G6T6R1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C230000-358  
 Prep Date.....: 03/23/05      Analysis Date...: 03/25/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	78	(45 - 110)	SW846 8270C
Acenaphthene	83	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	74	(48 - 111)	SW846 8270C
Pyrene	86	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	102	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	85	(38 - 110)	SW846 8270C
Pentachlorophenol	48	(10 - 123)	SW846 8270C
Phenol	85	(35 - 110)	SW846 8270C
2-Chlorophenol	83	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	77	(43 - 110)	SW846 8270C
4-Nitrophenol	61	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	77	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
Terphenyl-d14	83	(37 - 137)
Phenol-d5	81	(25 - 115)
2-Fluorophenol	78	(11 - 116)
2,4,6-Tribromophenol	82	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C230173

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C240000-031	Prep Batch #...:	5083031		
Arsenic	86	(80 - 120)	SW846 6010B	03/24/05	G6WJH1AR
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173      Work Order #...: G6R281AF-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C230158-001      G6R281AG-MSD  
 Date Sampled...: 03/21/05 17:55      Date Received...: 03/23/05  
 Prep Date.....: 03/23/05      Analysis Date...: 03/24/05  
 Prep Batch #...: 5082357  
 Dilution Factor: 1      % Moisture.....: 100

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Acenaphthene	63	(13 - 133)			SW846 8270C
	65	(13 - 133)	3.1	(0-44)	SW846 8270C
2,4-Dinitrotoluene	65	(10 - 171)			SW846 8270C
	65	(10 - 171)	0.61	(0-45)	SW846 8270C
Pyrene	72	(10 - 218)			SW846 8270C
	76	(10 - 218)	6.4	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	68	(12 - 128)			SW846 8270C
	72	(12 - 128)	5.9	(0-50)	SW846 8270C
Pentachlorophenol	53	(10 - 144)			SW846 8270C
	58	(10 - 144)	8.6	(0-87)	SW846 8270C
Phenol	59	(10 - 148)			SW846 8270C
	66	(10 - 148)	11	(0-50)	SW846 8270C
2-Chlorophenol	60	(17 - 116)			SW846 8270C
	69	(17 - 116)	15	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	61	(17 - 128)			SW846 8270C
	64	(17 - 128)	5.5	(0-55)	SW846 8270C
4-Nitrophenol	62	(10 - 148)			SW846 8270C
	62	(10 - 148)	0.17	(0-64)	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70	(42 - 110)
	64	(42 - 110)
2-Fluorobiphenyl	69	(43 - 110)
	64	(43 - 110)
Terphenyl-d14	85	(37 - 137)
	78	(37 - 137)
Phenol-d5	71	(25 - 115)
	71	(25 - 115)
2-Fluorophenol	66	(11 - 116)
	56	(11 - 116)
2,4,6-Tribromophenol	74	(35 - 116)
	66	(35 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters  
 Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173      Work Order #...: G6R841AE-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C230173-005      G6R841AF-MSD  
 Date Sampled...: 03/22/05 10:36      Date Received...: 03/23/05  
 Prep Date.....: 03/23/05      Analysis Date...: 03/28/05  
 Prep Batch #...: 5082358  
 Dilution Factor: 20

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	81 DIL	(16 - 121)			SW846 8270C
	75 DIL	(16 - 121)	8.2	(0-54)	SW846 8270C
Acenaphthene	118 DIL	(13 - 133)			SW846 8270C
	109 DIL	(13 - 133)	5.0	(0-44)	SW846 8270C
2,4-Dinitrotoluene	143 DIL	(10 - 171)			SW846 8270C
	139 DIL	(10 - 171)	3.5	(0-45)	SW846 8270C
Pyrene	2690 DIL,	(10 - 218)			SW846 8270C
	2280 DIL,	(10 - 218)	5.6	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	92 DIL	(12 - 128)			SW846 8270C
	86 DIL	(12 - 128)	6.9	(0-50)	SW846 8270C
1,4-Dichlorobenzene	99 DIL	(18 - 110)			SW846 8270C
	85 DIL	(18 - 110)	16	(0-59)	SW846 8270C
Pentachlorophenol	0.0 DIL,a	(10 - 144)			SW846 8270C
	0.0 DIL,a	(10 - 144)	0.0	(0-87)	SW846 8270C
Phenol	71 DIL	(10 - 148)			SW846 8270C
	74 DIL	(10 - 148)	4.7	(0-50)	SW846 8270C
2-Chlorophenol	68 DIL	(17 - 116)			SW846 8270C
	75 DIL	(17 - 116)	9.8	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	56 DIL	(17 - 128)			SW846 8270C
	59 DIL	(17 - 128)	4.3	(0-55)	SW846 8270C
4-Nitrophenol	0.0 DIL,a	(10 - 148)			SW846 8270C
	173	(10 - 148)	200	(0-64)	SW846 8270C

Qualifiers: DIL,a,p

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	74 DIL	(42 - 110)
	71 DIL	(42 - 110)
2-Fluorobiphenyl	78 DIL	(43 - 110)
	71 DIL	(43 - 110)
Terphenyl-d14	95 DIL	(37 - 137)
	79 DIL	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
	71 DIL	(25 - 115)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C230173      Work Order #...: G6R841AE-MS      Matrix.....: SO  
MS Lot-Sample #: A5C230173-005      G6R841AF-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2-Fluorophenol	62 DIL	(11 - 116)
	65 DIL	(11 - 116)
2,4,6-Tribromophenol	58 DIL	(35 - 116)
	60 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.  
p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C230173

Matrix.....: SOLID

Date Sampled...: 03/14/05

Date Received...: 03/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C230152-001 Prep Batch #...: 5083031

% Moisture.....: 46

Arsenic	82	(75 - 125)			SW846 6010B	03/24/05	G6R1M1A9
	80	(75 - 125)	3.0	(0-20)	SW846 6010B	03/24/05	G6R1M1CA

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C230173

Work Order #...: G6R7T-SMP  
G6R7T-DUP

Matrix.....: SO

Date Sampled...: 03/22/05 10:18 Date Received...: 03/23/05

% Moisture.....: 18

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	82.3	84.4	%	2.5	(0-20)	SD Lot-Sample #: A5C230173-001 MCAWW 160.3 MOD	03/24-03/25/05	5083580

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C230173

Work Order #...: G60FD-SMP  
G60FD-DUP

Matrix.....: SOLID

Date Sampled...: 03/22/05 10:00 Date Received...: 03/24/05

% Moisture.....: 70

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	29.8	33.6	%	12	(0-20)	MCAWW 160.3 MOD	03/24-03/25/05	5083580
Dilution Factor: 1							SD Lot-Sample #: A5C240310-001	



**STL Cooler Receipt Form/Narrative**

Lot Number: AA230173

**North Canton Facility**

Client: CRA Project: Waukegan MGP Quote#: \_\_\_\_\_  
 Cooler Received on: 3-23-05 Opened on: 3-23-05 <sup>COLE</sup> <sub>SITE</sub> by: Ann Meddyp  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# K732 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA   
 2. Shipper's packing slip attached to this form? Yes  No  NA   
 3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No   
 4. Did you sign the custody papers in the appropriate place? Yes  No   
 5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_  
 6. Cooler temperature upon receipt 3.4 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None   
 7. Did all bottles arrive in good condition (Unbroken)? Yes  No   
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No   
 9. Were samples at the correct pH? (record below/on back) Yes  No  NA   
 10. Were correct bottles used for the tests indicated? Yes  No   
 11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA   
 12. Sufficient quantity received to perform indicated analyses? Yes  No   
 Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5C240258**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**March 31, 2005**

# CASE NARRATIVE

A5C240258

The following report contains the analytical results for fourteen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 24, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on March 31, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 84.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.4°C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

The matrix spike/matrix spike duplicate(s) for S-032305-PP-276 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **METALS**

The matrix spike/matrix spike duplicate(s) for S-032305-PP-276 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C240258

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032305-PP-071 03/23/05 11:05 002</b>				
m-Cresol & p-Cresol	6.8	5.0	mg/L	SW846 8270C
Benzene	0.076	0.025	mg/L	SW846 8260B
<b>S-032305-PP-073 03/23/05 10:57 003</b>				
o-Cresol	2.7	2.5	mg/L	SW846 8270C
m-Cresol & p-Cresol	6.3	5.0	mg/L	SW846 8270C
Benzene	0.59	0.025	mg/L	SW846 8260B
<b>S-032305-PP-274 03/23/05 13:01 004</b>				
Arsenic	301	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4300	1500	ug/kg	SW846 8270C
Benzo(a)pyrene	2200	1500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1500	1500	ug/kg	SW846 8270C
Naphthalene	1500	1500	ug/kg	SW846 8270C
Benzo(a)anthracene	3300	1500	ug/kg	SW846 8270C
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-275 03/23/05 13:02 005</b>				
Arsenic	266	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2300	750	ug/kg	SW846 8270C
Benzo(a)pyrene	1500	750	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	890	750	ug/kg	SW846 8270C
Naphthalene	1100	750	ug/kg	SW846 8270C
Benzo(a)anthracene	1500	750	ug/kg	SW846 8270C
Percent Solids	87.7	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-276 03/23/05 13:04 006</b>				
Arsenic	482	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	430	390	ug/kg	SW846 8270C
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-277 03/23/05 13:05 007</b>				
Arsenic	521	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	440	420	ug/kg	SW846 8270C
Percent Solids	78.0	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5C240258

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032305-PP-278 03/23/05 13:08 008</b>				
Arsenic	2320	7.0	mg/kg	SW846 6010B
Percent Solids	71.1	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-279 03/23/05 13:10 009</b>				
Arsenic	1330	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	6100	2000	ug/kg	SW846 8270C
Benzo(a)pyrene	4300	2000	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2000	2000	ug/kg	SW846 8270C
Benzo(a)anthracene	5700	2000	ug/kg	SW846 8270C
Percent Solids	84.5	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-280 03/23/05 13:12 010</b>				
Arsenic	207	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4100	1800	ug/kg	SW846 8270C
Benzo(a)pyrene	1900	1800	ug/kg	SW846 8270C
Benzo(a)anthracene	2400	1800	ug/kg	SW846 8270C
Percent Solids	74.7	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-281 03/23/05 13:14 011</b>				
Arsenic	604	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	4200	860	ug/kg	SW846 8270C
Benzo(a)pyrene	2700	860	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	1300	860	ug/kg	SW846 8270C
4-Methylphenol	880	860	ug/kg	SW846 8270C
Benzo(a)anthracene	3300	860	ug/kg	SW846 8270C
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-282 03/23/05 13:16 012</b>				
Arsenic	41.2	1.3	mg/kg	SW846 6010B
Percent Solids	74.3	10.0	%	MCAWW 160.3 MOD
<b>S-032305-PP-283 03/23/05 13:18 013</b>				
Arsenic	105	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	860	390	ug/kg	SW846 8270C
Benzo(a)pyrene	550	390	ug/kg	SW846 8270C
Naphthalene	1200	390	ug/kg	SW846 8270C
Benzo(a)anthracene	740	390	ug/kg	SW846 8270C
Percent Solids	84.7	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C240258

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C240258

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G6XW2	001	S-032305-PP-069	03/23/05	10:50
G6XW5	002	S-032305-PP-071	03/23/05	11:05
G6XW6	003	S-032305-PP-073	03/23/05	10:57
G6XW7	004	S-032305-PP-274	03/23/05	13:01
G6XW9	005	S-032305-PP-275	03/23/05	13:02
G6XXE	006	S-032305-PP-276	03/23/05	13:04
G6XXF	007	S-032305-PP-277	03/23/05	13:05
G6XXL	008	S-032305-PP-278	03/23/05	13:08
G6XXR	009	S-032305-PP-279	03/23/05	13:10
G6XXW	010	S-032305-PP-280	03/23/05	13:12
G6XX2	011	S-032305-PP-281	03/23/05	13:14
G6XX4	012	S-032305-PP-282	03/23/05	13:16
G6XX7	013	S-032305-PP-283	03/23/05	13:18
G6XX9	014	W-032305-PP-509	03/23/05	13:40
G6X0N	015	S-032305-PP-075	03/23/05	15:08

## **NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-069

TCLP GC/MS Volatiles

Lot-Sample #...: A5C240258-001    Work Order #...: G6XW21AA    Matrix.....: SO  
 Date Sampled...: 03/23/05 10:50    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/29/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508315    Prep Batch #...: 5086062  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	103	(86 - 125)
1,2-Dichloroethane-d4	99	(80 - 122)
Toluene-d8	99	(90 - 122)
4-Bromofluorobenzene	98	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-069

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C240258-001    Work Order #...: G6XW22AD    Matrix.....: SO  
 Date Sampled...: 03/23/05 10:50    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/28/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508310    Prep Batch #...: 5087430  
 Dilution Factor: 2  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.10	mg/L
m-Cresol & p-Cresol	ND	0.20	mg/L
1,4-Dichlorobenzene	ND	0.10	mg/L
2,4-Dinitrotoluene	ND	0.10	mg/L
Hexachlorobenzene	ND	0.10	mg/L
Hexachlorobutadiene	ND	0.10	mg/L
Hexachloroethane	ND	0.10	mg/L
Nitrobenzene	ND	0.10	mg/L
Pentachlorophenol	ND	0.20	mg/L
Pyridine	ND	0.20	mg/L
2,4,5-Trichloro-phenol	ND	0.50	mg/L
2,4,6-Trichloro-phenol	ND	0.10	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	69 DIL	( 32 - 112 )
2-Fluorobiphenyl	74 DIL	( 30 - 110 )
Terphenyl-d14	86 DIL	( 10 - 144 )
Phenol-d5	17 DIL	( 10 - 113 )
2-Fluorophenol	13 DIL	( 13 - 110 )
2,4,6-Tribromophenol	33 DIL	( 21 - 122 )

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311  
 DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-069

TCLP Metals

Lot-Sample #...: A5C240258-001

Matrix.....: SO

Date Sampled...: 03/23/05 10:50 Date Received...: 03/24/05

Leach Date.....: 03/24/05 Leach Batch #...: P508310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5087026						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/28-03/29/05	G6XW21AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-071

TCLP GC/MS Volatiles

Lot-Sample #...: A5C240258-002    Work Order #...: G6XW51AA    Matrix.....: SO  
 Date Sampled...: 03/23/05 11:05    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/29/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508315    Prep Batch #...: 5086062  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzene</b>	<b>0.076</b>	<b>0.025</b>	<b>mg/L</b>
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-071

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C240258-002    Work Order #...: G6XW52AD    Matrix.....: SO  
 Date Sampled...: 03/23/05 11:05    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/28/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508310    Prep Batch #...: 5087430  
 Dilution Factor: 50  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	2.5	mg/L
<b>m-Cresol &amp; p-Cresol</b>	<b>6.8</b>	<b>5.0</b>	<b>mg/L</b>
1,4-Dichlorobenzene	ND	2.5	mg/L
2,4-Dinitrotoluene	ND	2.5	mg/L
Hexachlorobenzene	ND	2.5	mg/L
Hexachlorobutadiene	ND	2.5	mg/L
Hexachloroethane	ND	2.5	mg/L
Nitrobenzene	ND	2.5	mg/L
Pentachlorophenol	ND	5.0	mg/L
Pyridine	ND	5.0	mg/L
2,4,5-Trichloro-phenol	ND	12	mg/L
2,4,6-Trichloro-phenol	ND	2.5	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(32 - 112)
2-Fluorobiphenyl	0.0 DIL, *	(30 - 110)
Terphenyl-d14	0.0 DIL, *	(10 - 144)
Phenol-d5	0.0 DIL, *	(10 - 113)
2-Fluorophenol	0.0 DIL, *	(13 - 110)
2,4,6-Tribromophenol	0.0 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-071

TCLP Metals

Lot-Sample #...: A5C240258-002

Matrix.....: SO

Date Sampled...: 03/23/05 11:05 Date Received...: 03/24/05

Leach Date.....: 03/24/05 Leach Batch #...: P508310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5087026						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/28-03/29/05	G6XW51AE
		Dilution Factor: 1				

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-073

TCLP GC/MS Volatiles

Lot-Sample #...: A5C240258-003    Work Order #...: G6XW61AA    Matrix.....: SO  
 Date Sampled...: 03/23/05 10:57    Date Received...: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/29/05    Analysis Date...: 03/29/05  
 Leach Batch #..: P508315    Prep Batch #...: 5086062  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzene</b>	<b>0.59</b>	<b>0.025</b>	<b>mg/L</b>
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	102	(90 - 122)
4-Bromofluorobenzene	97	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-073

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C240258-003    Work Order #...: G6XW62AD    Matrix.....: SO  
 Date Sampled...: 03/23/05 10:57    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/28/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508310    Prep Batch #...: 5087430  
 Dilution Factor: 50  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	2.7	2.5	mg/L
m-Cresol & p-Cresol	6.3	5.0	mg/L
1,4-Dichlorobenzene	ND	2.5	mg/L
2,4-Dinitrotoluene	ND	2.5	mg/L
Hexachlorobenzene	ND	2.5	mg/L
Hexachlorobutadiene	ND	2.5	mg/L
Hexachloroethane	ND	2.5	mg/L
Nitrobenzene	ND	2.5	mg/L
Pentachlorophenol	ND	5.0	mg/L
Pyridine	ND	5.0	mg/L
2,4,5-Trichloro-phenol	ND	12	mg/L
2,4,6-Trichloro-phenol	ND	2.5	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(32 - 112)
2-Fluorobiphenyl	0.0 DIL, *	(30 - 110)
Terphenyl-d14	0.0 DIL, *	(10 - 144)
Phenol-d5	0.0 DIL, *	(10 - 113)
2-Fluorophenol	0.0 DIL, *	(13 - 110)
2,4,6-Tribromophenol	0.0 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-073

TCLP Metals

Lot-Sample #...: A5C240258-003

Matrix.....: SO

Date Sampled...: 03/23/05 10:57 Date Received...: 03/24/05

Leach Date.....: 03/24/05 Leach Batch #...: P508310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5087026						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/28-03/29/05	G6XW61AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-274

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-004    Work Order #...: G6XW71AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:01    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/30/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 4  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	4300	1500	ug/kg
Benzo(a)pyrene	2200	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	1500	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	1500	1500	ug/kg
Benzo(a)anthracene	3300	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	101 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
Terphenyl-d14	89 DIL	(37 - 137)
Phenol-d5	83 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	70 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-274

TOTAL Metals

Lot-Sample #...: A5C240258-004

Matrix.....: SO

Date Sampled...: 03/23/05 13:01 Date Received...: 03/24/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	301	1.2	mg/kg	SW846 6010B	03/29/05	G6XW71AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-274

General Chemistry

Lot-Sample #...: A5C240258-004    Work Order #...: G6XW7    Matrix.....: SO  
Date Sampled...: 03/23/05 13:01    Date Received..: 03/24/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.3	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-275

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-005    Work Order #...: G6XW91AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:02    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/30/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 2  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2300	750	ug/kg
Benzo(a)pyrene	1500	750	ug/kg
Dibenz(a,h)anthracene	ND	750	ug/kg
Dibenzofuran	ND	750	ug/kg
Indeno(1,2,3-cd)pyrene	890	750	ug/kg
4-Methylphenol	ND	750	ug/kg
Naphthalene	1100	750	ug/kg
Benzo(a)anthracene	1500	750	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	108 DIL	(42 - 110)
2-Fluorobiphenyl	77 DIL	(43 - 110)
Terphenyl-d14	92 DIL	(37 - 137)
Phenol-d5	89 DIL	(25 - 115)
2-Fluorophenol	72 DIL	(11 - 116)
2,4,6-Tribromophenol	71 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-275

TOTAL Metals

Lot-Sample #...: A5C240258-005

Matrix.....: SO

Date Sampled...: 03/23/05 13:02 Date Received...: 03/24/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 5088020						
Arsenic	266	1.1	mg/kg	SW846 6010B	03/29/05	G6XW91AD
		Dilution Factor: 1				

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-275

General Chemistry

Lot-Sample #...: A5C240258-005    Work Order #...: G6XW9    Matrix.....: SO  
Date Sampled...: 03/23/05 13:02    Date Received..: 03/24/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.7	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-276

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-006    Work Order #...: G6XXE1AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:04    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>430</b>	<b>390</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	ND	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72	(42 - 110)
2-Fluorobiphenyl	69	(43 - 110)
Terphenyl-d14	82	(37 - 137)
Phenol-d5	74	(25 - 115)
2-Fluorophenol	70	(11 - 116)
2,4,6-Tribromophenol	72	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-276

TOTAL Metals

Lot-Sample #...: A5C240258-006

Matrix.....: SO

Date Sampled...: 03/23/05 13:04 Date Received...: 03/24/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	482	1.2	mg/kg	SW846 6010B	03/29/05	G6XXE1AG
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-276

General Chemistry

Lot-Sample #...: A5C240258-006    Work Order #...: G6XXE    Matrix.....: SO  
Date Sampled...: 03/23/05 13:04    Date Received..: 03/24/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-277

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-007    Work Order #...: G6XXF1AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:05    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1  
 % Moisture.....: 22    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>440</b>	<b>420</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	420	ug/kg
Dibenz(a,h)anthracene	ND	420	ug/kg
Dibenzofuran	ND	420	ug/kg
Indeno(1,2,3-cd)pyrene	ND	420	ug/kg
4-Methylphenol	ND	420	ug/kg
Naphthalene	ND	420	ug/kg
Benzo(a)anthracene	ND	420	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	73	(42 - 110)
2-Fluorobiphenyl	71	(43 - 110)
Terphenyl-d14	76	(37 - 137)
Phenol-d5	67	(25 - 115)
2-Fluorophenol	61	(11 - 116)
2,4,6-Tribromophenol	64	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-277

TOTAL Metals

Lot-Sample #...: A5C240258-007

Matrix.....: SO

Date Sampled...: 03/23/05 13:05 Date Received...: 03/24/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	521	1.3	mg/kg	SW846 6010B	03/29/05	G6XXF1AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-277

General Chemistry

Lot-Sample #...: A5C240258-007    Work Order #...: G6XXF    Matrix.....: SO  
Date Sampled...: 03/23/05 13:05    Date Received..: 03/24/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	78.0	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-278

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-008    Work Order #...: G6XXL1AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:08    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1  
 % Moisture.....: 29    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	460	ug/kg
Benzo(a)pyrene	ND	460	ug/kg
Dibenz(a,h)anthracene	ND	460	ug/kg
Dibenzofuran	ND	460	ug/kg
Indeno(1,2,3-cd)pyrene	ND	460	ug/kg
4-Methylphenol	ND	460	ug/kg
Naphthalene	ND	460	ug/kg
Benzo(a)anthracene	ND	460	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	52	(42 - 110)
2-Fluorobiphenyl	48	(43 - 110)
Terphenyl-d14	69	(37 - 137)
Phenol-d5	56	(25 - 115)
2-Fluorophenol	48	(11 - 116)
2,4,6-Tribromophenol	53	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-278

TOTAL Metals

Lot-Sample #...: A5C240258-008

Matrix.....: SO

Date Sampled...: 03/23/05 13:08 Date Received...: 03/24/05

% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	2320	7.0	mg/kg	SW846 6010B	03/29/05	G6XXL1AD
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-278

General Chemistry

Lot-Sample #...: A5C240258-008    Work Order #...: G6XXL    Matrix.....: SO  
Date Sampled...: 03/23/05 13:08    Date Received..: 03/24/05  
% Moisture.....: 29

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	71.1	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-279

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-009    Work Order #...: G6XXR1AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:10    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/30/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 5  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	6100	2000	ug/kg
Benzo(a)pyrene	4300	2000	ug/kg
Dibenz(a,h)anthracene	ND	2000	ug/kg
Dibenzofuran	ND	2000	ug/kg
Indeno(1,2,3-cd)pyrene	2000	2000	ug/kg
4-Methylphenol	ND	2000	ug/kg
Naphthalene	ND	2000	ug/kg
Benzo(a)anthracene	5700	2000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	99 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	84 DIL	(37 - 137)
Phenol-d5	75 DIL	(25 - 115)
2-Fluorophenol	56 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-279

TOTAL Metals

Lot-Sample #...: A5C240258-009

Matrix.....: SO

Date Sampled...: 03/23/05 13:10 Date Received...: 03/24/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	1330	5.9	mg/kg	SW846 6010B	03/29/05	G6XXR1AD
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-279

General Chemistry

Lot-Sample #...: A5C240258-009    Work Order #...: G6XXR    Matrix.....: SO  
Date Sampled...: 03/23/05 13:10    Date Received..: 03/24/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.5	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-280

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-010    Work Order #...: G6XXW1AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:12    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/30/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 4  
 % Moisture.....: 25    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	4100	1800	ug/kg
Benzo(a)pyrene	1900	1800	ug/kg
Dibenz(a,h)anthracene	ND	1800	ug/kg
Dibenzofuran	ND	1800	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1800	ug/kg
4-Methylphenol	ND	1800	ug/kg
Naphthalene	ND	1800	ug/kg
Benzo(a)anthracene	2400	1800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	95 DIL	(42 - 110)
2-Fluorobiphenyl	65 DIL	(43 - 110)
Terphenyl-d14	80 DIL	(37 - 137)
Phenol-d5	78 DIL	(25 - 115)
2-Fluorophenol	64 DIL	(11 - 116)
2,4,6-Tribromophenol	62 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-280

TOTAL Metals

Lot-Sample #...: A5C240258-010

Matrix.....: SO

Date Sampled...: 03/23/05 13:12 Date Received...: 03/24/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	207	1.3	mg/kg	SW846 6010B	03/29/05	G6XXW1AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-280

General Chemistry

Lot-Sample #...: A5C240258-010    Work Order #...: G6XXW    Matrix.....: SO  
Date Sampled...: 03/23/05 13:12    Date Received..: 03/24/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	74.7	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-281

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-011    Work Order #...: G6XX21AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:14    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/30/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 2  
 % Moisture.....: 23    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	4200	860	ug/kg
Benzo(a)pyrene	2700	860	ug/kg
Dibenz(a,h)anthracene	ND	860	ug/kg
Dibenzofuran	ND	860	ug/kg
Indeno(1,2,3-cd)pyrene	1300	860	ug/kg
4-Methylphenol	880	860	ug/kg
Naphthalene	ND	860	ug/kg
Benzo(a)anthracene	3300	860	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	100 DIL	(42 - 110)
2-Fluorobiphenyl	68 DIL	(43 - 110)
Terphenyl-d14	80 DIL	(37 - 137)
Phenol-d5	72 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	59 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-281

TOTAL Metals

Lot-Sample #...: A5C240258-011

Matrix.....: SO

Date Sampled...: 03/23/05 13:14 Date Received...: 03/24/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	604	1.3	mg/kg	SW846 6010B	03/29/05	G6XX21AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-281

General Chemistry

Lot-Sample #...: A5C240258-011    Work Order #...: G6XX2    Matrix.....: SO  
Date Sampled...: 03/23/05 13:14    Date Received..: 03/24/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.6	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-282

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-012    Work Order #...: G6XX41AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:16    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1  
 % Moisture.....: 26    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	440	ug/kg
Benzo(a)pyrene	ND	440	ug/kg
Dibenz(a,h)anthracene	ND	440	ug/kg
Dibenzofuran	ND	440	ug/kg
Indeno(1,2,3-cd)pyrene	ND	440	ug/kg
4-Methylphenol	ND	440	ug/kg
Naphthalene	ND	440	ug/kg
Benzo(a)anthracene	ND	440	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	72	( 42 - 110)
2-Fluorobiphenyl	67	( 43 - 110)
Terphenyl-d14	68	( 37 - 137)
Phenol-d5	80	( 25 - 115)
2-Fluorophenol	77	( 11 - 116)
2,4,6-Tribromophenol	73	( 35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-282

TOTAL Metals

Lot-Sample #...: A5C240258-012

Matrix.....: SO

Date Sampled...: 03/23/05 13:16 Date Received...: 03/24/05

% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	41.2	1.3	mg/kg	SW846 6010B	03/29/05	G6XX41AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-282

General Chemistry

Lot-Sample #...: A5C240258-012    Work Order #...: G6XX4    Matrix.....: SO  
Date Sampled...: 03/23/05 13:16    Date Received..: 03/24/05  
% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	74.3	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-283

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-013    Work Order #...: G6XX71AC    Matrix.....: SO  
 Date Sampled...: 03/23/05 13:18    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	860	390	ug/kg
Benzo(a)pyrene	550	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	1200	390	ug/kg
Benzo(a)anthracene	740	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	74	(42 - 110)
2-Fluorobiphenyl	73	(43 - 110)
Terphenyl-d14	84	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	58	(11 - 116)
2,4,6-Tribromophenol	51	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-283

TOTAL Metals

Lot-Sample #...: A5C240258-013

Matrix.....: SO

Date Sampled...: 03/23/05 13:18 Date Received...: 03/24/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5088020

Arsenic	105	1.2	mg/kg	SW846 6010B	03/29/05	G6XX71AD
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-283

General Chemistry

Lot-Sample #...: A5C240258-013    Work Order #...: G6XX7    Matrix.....: SO  
Date Sampled...: 03/23/05 13:18    Date Received..: 03/24/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.7	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032305-PP-509

GC/MS Semivolatiles

Lot-Sample #...: A5C240258-014    Work Order #...: G6XX91AC    Matrix.....: WG  
 Date Sampled...: 03/23/05 13:40    Date Received...: 03/24/05  
 Prep Date.....: 03/24/05    Analysis Date...: 03/28/05  
 Prep Batch #...: 5083401  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	( 32 - 112)
2-Fluorobiphenyl	71	( 30 - 110)
Terphenyl-d14	92	( 10 - 144)
Phenol-d5	78	( 10 - 113)
2-Fluorophenol	73	( 13 - 110)
2,4,6-Tribromophenol	85	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032305-PP-509

TOTAL Metals

Lot-Sample #...: A5C240258-014

Matrix.....: WG

Date Sampled...: 03/23/05 13:40 Date Received...: 03/24/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5084037						
Arsenic	ND	0.010	mg/L	SW846 6010B	03/25-03/28/05	G6XX91AA
		Dilution Factor: 1				

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-075

TCLP GC/MS Volatiles

Lot-Sample #...: A5C240258-015    Work Order #...: G6X0N1AA    Matrix.....: SO  
 Date Sampled...: 03/23/05 15:08    Date Received...: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/29/05    Analysis Date...: 03/29/05  
 Leach Batch #..: P508315    Prep Batch #...: 5086062  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzene	ND	0.025	mg/L
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
Toluene-d8	99	(90 - 122)
4-Bromofluorobenzene	99	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-075

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5C240258-015    Work Order #...: G6X0N2AD    Matrix.....: SO  
 Date Sampled...: 03/23/05 15:08    Date Received..: 03/24/05  
 Leach Date.....: 03/24/05    Prep Date.....: 03/28/05    Analysis Date..: 03/29/05  
 Leach Batch #..: P508310    Prep Batch #...: 5087430  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.050	mg/L
m-Cresol & p-Cresol	ND	0.10	mg/L
1,4-Dichlorobenzene	ND	0.050	mg/L
2,4-Dinitrotoluene	ND	0.050	mg/L
Hexachlorobenzene	ND	0.050	mg/L
Hexachlorobutadiene	ND	0.050	mg/L
Hexachloroethane	ND	0.050	mg/L
Nitrobenzene	ND	0.050	mg/L
Pentachlorophenol	ND	0.10	mg/L
Pyridine	ND	0.10	mg/L
2,4,5-Trichloro-phenol	ND	0.25	mg/L
2,4,6-Trichloro-phenol	ND	0.050	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	55	(32 - 112)
2-Fluorobiphenyl	59	(30 - 110)
Terphenyl-d14	84	(10 - 144)
Phenol-d5	28	(10 - 113)
2-Fluorophenol	22	(13 - 110)
2,4,6-Tribromophenol	35	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032305-PP-075

TCLP Metals

Lot-Sample #...: A5C240258-015

Matrix.....: SO

Date Sampled...: 03/23/05 15:08 Date Received...: 03/24/05

Leach Date.....: 03/24/05 Leach Batch #...: P508310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5087026						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/28-03/29/05	G6X0N1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C240258      Work Order #...: G6XT51AA      Matrix.....: SOLID  
MB Lot-Sample #: A5C240000-297  
Leach Date.....: 03/24/05      Prep Date.....: 03/29/05      Analysis Date..: 03/29/05  
Leach Batch #..: P508315      Prep Batch #...: 5086062  
Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	102	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
Toluene-d8	103	(90 - 122)
4-Bromofluorobenzene	96	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258  
MB Lot-Sample #: A5C240000-388

Work Order #...: G60G91AA

Matrix.....: SOLID

Prep Date.....: 03/24/05

Analysis Date..: 03/25/05

Prep Batch #...: 5083388

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	98	( 42 - 110)
2-Fluorobiphenyl	69	( 43 - 110)
Terphenyl-d14	94	( 37 - 137)
Phenol-d5	93	( 25 - 115)
2-Fluorophenol	88	( 11 - 116)
2,4,6-Tribromophenol	71	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258  
MB Lot-Sample #: A5C240000-401

Work Order #...: G60HD1AA

Matrix.....: WATER

Prep Date.....: 03/24/05

Analysis Date..: 03/28/05

Prep Batch #...: 5083401

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79	( 32 - 112)
2-Fluorobiphenyl	73	( 30 - 110)
Terphenyl-d14	89	( 10 - 144)
Phenol-d5	74	( 10 - 113)
2-Fluorophenol	73	( 13 - 110)
2,4,6-Tribromophenol	81	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G66WG1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5C280000-430  
 Leach Date.....: 03/24/05      Prep Date.....: 03/28/05      Analysis Date..: 03/29/05  
 Leach Batch #..: P508310      Prep Batch #...: 5087430  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	77	( 32 - 112)
2-Fluorobiphenyl	75	( 30 - 110)
Terphenyl-d14	90	( 10 - 144)
Phenol-d5	59	( 10 - 113)
2-Fluorophenol	63	( 13 - 110)
2,4,6-Tribromophenol	84	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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**MB Lot-Sample #:** A5C250000-037 **Prep Batch #...:** 5084037  
Arsenic ND 0.010 mg/L SW846 6010B 03/25-03/28/05 G61N91DD  
Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C290000-020		<b>Prep Batch #...</b> : 5088020				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/29/05	G67EJ1AD
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C240000-273		<b>Prep Batch #...</b> : 5087026				
<b>Leach Date.....</b> : 03/24/05		<b>Leach Batch #...</b> : P508310				
Arsenic	ND	0.50	mg/L	SW846 6010B	03/28-03/29/05	G6XPR1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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**MB Lot-Sample #:** A5C280000-026 **Prep Batch #...:** 5087026  
Arsenic ND 0.50 mg/L SW846 6010B 03/28-03/29/05 G65LV1AA  
Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids		Work Order #: G628A1AA		MB Lot-Sample #:	A5C240000-575	
	ND	10.0	%	MCAWW 160.3 MOD	03/24-03/25/05	5083575
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5C240258      Work Order #...: G65J31AC      Matrix.....: WASTE  
 LCS Lot-Sample#: A5C270000-062  
 Prep Date.....: 03/29/05      Analysis Date...: 03/29/05  
 Prep Batch #...: 5086062  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
Benzene	103	(76 - 118)	SW846 8260B
Chlorobenzene	98	(76 - 113)	SW846 8260B
1,1-Dichloroethylene	110	(67 - 128)	SW846 8260B
Trichloroethylene	102	(76 - 119)	SW846 8260B
Toluene	96	(72 - 117)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	106	(86 - 124)
1,2-Dichloroethane-d4	97	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	103	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G60G91AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C240000-388  
 Prep Date.....: 03/24/05      Analysis Date...: 03/25/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	72	(45 - 110)	SW846 8270C
Acenaphthene	74	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	81	(48 - 111)	SW846 8270C
Pyrene	81	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	102	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	80	(38 - 110)	SW846 8270C
Pentachlorophenol	49	(10 - 123)	SW846 8270C
Phenol	79	(35 - 110)	SW846 8270C
2-Chlorophenol	68	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	87	(43 - 110)	SW846 8270C
4-Nitrophenol	82	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	87	(42 - 110)
2-Fluorobiphenyl	64	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	84	(25 - 115)
2-Fluorophenol	73	(11 - 116)
2,4,6-Tribromophenol	72	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G60HD1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5C240000-401      G60HD1AD-LCSD  
 Prep Date.....: 03/24/05      Analysis Date...: 03/28/05  
 Prep Batch #...: 5083401  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	71	(31 - 110)			SW846 8270C
	66	(31 - 110)	7.8	(0-37)	SW846 8270C
Acenaphthene	84	(39 - 118)			SW846 8270C
	81	(39 - 118)	4.3	(0-35)	SW846 8270C
2,4-Dinitrotoluene	83	(47 - 131)			SW846 8270C
	78	(47 - 131)	6.2	(0-32)	SW846 8270C
Pyrene	88	(46 - 130)			SW846 8270C
	84	(46 - 130)	5.2	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl- amine	100	(30 - 115)			SW846 8270C
	90	(30 - 115)	10	(0-36)	SW846 8270C
1,4-Dichlorobenzene	69	(28 - 110)			SW846 8270C
	65	(28 - 110)	5.7	(0-36)	SW846 8270C
Pentachlorophenol	63	(10 - 140)			SW846 8270C
	61	(10 - 140)	3.8	(0-56)	SW846 8270C
Phenol	84	(10 - 131)			SW846 8270C
	74	(10 - 131)	12	(0-43)	SW846 8270C
2-Chlorophenol	84	(19 - 124)			SW846 8270C
	74	(19 - 124)	13	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	77	(29 - 124)			SW846 8270C
	73	(29 - 124)	4.8	(0-55)	SW846 8270C
4-Nitrophenol	67	(19 - 144)			SW846 8270C
	64	(19 - 144)	3.5	(0-34)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	86	(32 - 112)
	81	(32 - 112)
2-Fluorobiphenyl	80	(30 - 110)
	76	(30 - 110)
Terphenyl-d14	91	(10 - 144)
	86	(10 - 144)
Phenol-d5	84	(10 - 113)
	75	(10 - 113)
2-Fluorophenol	83	(13 - 110)
	72	(13 - 110)
2,4,6-Tribromophenol	90	(21 - 122)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G66WG1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C280000-430      G66WG1AD-LCSD  
 Prep Date.....: 03/28/05      Analysis Date...: 03/29/05  
 Prep Batch #...: 5087430  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	67	(33 - 115)			SW846 8270C
	72	(33 - 115)	6.0	(0-31)	SW846 8270C
m-Cresol & p-Cresol	68	(46 - 109)			SW846 8270C
	75	(46 - 109)	9.9	(0-32)	SW846 8270C
1,4-Dichlorobenzene	83	(28 - 110)			SW846 8270C
	93	(28 - 110)	11	(0-36)	SW846 8270C
2,4-Dinitrotoluene	77	(47 - 131)			SW846 8270C
	84	(47 - 131)	8.6	(0-32)	SW846 8270C
Hexachlorobenzene	83	(57 - 128)			SW846 8270C
	90	(57 - 128)	8.4	(0-22)	SW846 8270C
Hexachlorobutadiene	76	(36 - 116)			SW846 8270C
	85	(36 - 116)	11	(0-32)	SW846 8270C
Hexachloroethane	86	(30 - 110)			SW846 8270C
	83	(30 - 110)	3.6	(0-33)	SW846 8270C
Nitrobenzene	81	(45 - 130)			SW846 8270C
	85	(45 - 130)	4.8	(0-50)	SW846 8270C
Pentachlorophenol	55	(10 - 140)			SW846 8270C
	70	(10 - 140)	24	(0-56)	SW846 8270C
Pyridine	78	(10 - 148)			SW846 8270C
	69	(10 - 148)	13	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	74	(41 - 125)			SW846 8270C
	85	(41 - 125)	13	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	72	(46 - 135)			SW846 8270C
	84	(46 - 135)	15	(0-27)	SW846 8270C
Cresols (total)	68	(46 - 109)			SW846 8270C
	74	(46 - 109)	8.6	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(32 - 112)
	80	(32 - 112)
2-Fluorobiphenyl	69	(30 - 110)
	76	(30 - 110)
Terphenyl-d14	75	(10 - 144)
	85	(10 - 144)
Phenol-d5	45	(10 - 113)

(Continued on next page)



LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C250000-037 Prep Batch #...: 5084037

Arsenic	94	(80 - 120)	SW846 6010B	03/25-03/28/05	G61N91DW
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Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5C290000-020	Prep Batch #...:	5088020		
Arsenic	95	(80 - 120)	SW846 6010B	03/29/05	G67EJ1AE
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5C280000-026 Prep Batch #...: 5087026

Arsenic 101 (50 - 150) SW846 6010B 03/28-03/29/05 G65LV1AK

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5C240258      Work Order #...: G6QDQ1AM-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C220232-001      G6QDQ1AN-MSD  
 Date Sampled...: 03/18/05 09:45      Date Received...: 03/19/05  
 Leach Date.....: 03/24/05      Prep Date.....: 03/29/05      Analysis Date...: 03/29/05  
 Leach Batch #...: P508315      Prep Batch #...: 5086062  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	98	(76 - 117)			SW846 8260B
	94	(76 - 117)	4.0	(0-30)	SW846 8260B
Chlorobenzene	95	(72 - 114)			SW846 8260B
	91	(72 - 114)	5.0	(0-30)	SW846 8260B
1,1-Dichloroethylene	101	(67 - 129)			SW846 8260B
	97	(67 - 129)	3.6	(0-30)	SW846 8260B
Trichloroethylene	96	(72 - 121)			SW846 8260B
	91	(72 - 121)	4.6	(0-30)	SW846 8260B
Toluene	93	(67 - 113)			SW846 8260B
	88	(67 - 113)	6.0	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	104	(86 - 125)
	102	(86 - 125)
1,2-Dichloroethane-d4	96	(80 - 122)
	96	(80 - 122)
Toluene-d8	102	(90 - 122)
	97	(90 - 122)
4-Bromofluorobenzene	102	(84 - 125)
	101	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G6XXE1AD-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C240258-006      G6XXE1AE-MSD  
 Date Sampled...: 03/23/05 13:04      Date Received...: 03/24/05  
 Prep Date.....: 03/24/05      Analysis Date...: 03/29/05  
 Prep Batch #...: 5083388  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	78	(16 - 121)			SW846 8270C
	68	(16 - 121)	14	(0-54)	SW846 8270C
Acenaphthene	80	(13 - 133)			SW846 8270C
	72	(13 - 133)	11	(0-44)	SW846 8270C
2,4-Dinitrotoluene	40	(10 - 171)			SW846 8270C
	25	(10 - 171)	45	(0-45)	SW846 8270C
Pyrene	97	(10 - 218)			SW846 8270C
	73	(10 - 218)	20	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	91	(12 - 128)			SW846 8270C
	88	(12 - 128)	3.2	(0-50)	SW846 8270C
1,4-Dichlorobenzene	86	(18 - 110)			SW846 8270C
	84	(18 - 110)	3.6	(0-59)	SW846 8270C
Pentachlorophenol	54	(10 - 144)			SW846 8270C
	32	(10 - 144)	51	(0-87)	SW846 8270C
Phenol	84	(10 - 148)			SW846 8270C
	81	(10 - 148)	4.7	(0-50)	SW846 8270C
2-Chlorophenol	78	(17 - 116)			SW846 8270C
	73	(17 - 116)	7.3	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	74	(17 - 128)			SW846 8270C
	70	(17 - 128)	5.8	(0-55)	SW846 8270C
4-Nitrophenol	26	(10 - 148)			SW846 8270C
	0.0 a,p	(10 - 148)	200	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76	(42 - 110)
	67	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
	69	(43 - 110)
Terphenyl-d14	82	(37 - 137)
	70	(37 - 137)
Phenol-d5	74	(25 - 115)
	72	(25 - 115)
2-Fluorophenol	69	(11 - 116)
	69	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C240258      Work Order #...: G6XXE1AD-MS      Matrix.....: SO  
MS Lot-Sample #: A5C240258-006      G6XXE1AE-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	71	(35 - 116)
	71	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: WATER

Date Sampled...: 03/22/05 11:50 Date Received...: 03/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C230357-007 Prep Batch #...: 5084037

Arsenic	105	(75 - 125)			SW846 6010B	03/25-03/28/05	G6VWD1FW
	102	(75 - 125)	2.2	(0-20)	SW846 6010B	03/25-03/28/05	G6VWD1FX

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C240258

Matrix.....: SO

Date Sampled...: 03/23/05 13:04 Date Received...: 03/24/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C240258-006 Prep Batch #...: 5088020

Arsenic	100	(75 - 125)			SW846 6010B	03/29/05	G6XXE1AH
	26 N,*	(75 - 125)	28	(0-20)	SW846 6010B	03/29/05	G6XXE1AJ

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

\* Relative percent difference (RPD) is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5C240258

Matrix.....: SOLID

Date Sampled...: 03/22/05 08:00 Date Received...: 03/23/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5C230277-001 Prep Batch #...: 5087026

Leach Date.....: 03/24/05 Leach Batch #...: P508310

Arsenic	101	(50 - 150)			SW846 6010B	03/28-03/29/05	G6T7H1AN
	97	(50 - 150)	3.1	(0-20)	SW846 6010B	03/28-03/29/05	G6T7H1AP

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C240258

Work Order #...: G6W9Q-SMP  
G6W9Q-DUP

Matrix.....: SOLID

Date Sampled...: 03/23/05 10:00 Date Received...: 03/24/05

% Moisture.....: 7.8

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	92.2	94.1	%	2.0	(0-20)	SD Lot-Sample #: A5C240174-001 MCAWW 160.3 MOD	03/24-03/25/05	5083575

Dilution Factor: 1





**STL Cooler Receipt Form/Narrative**

Lot Number: ABC21058

**North Canton Facility**

Client: CRA

Project: Whiskey Run Lake Site Quote#: \_\_\_\_\_

Cooler Received on: 3-24-05

Opened on: 3-24-05

by: Ann Maddux  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_

Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 34 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5C300215

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

April 6, 2005

# **CASE NARRATIVE**

A5C300215

The following report contains the analytical results for seventeen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received March 30, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 5, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 85.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 3.2°C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

The matrix spike/matrix spike duplicate associated with sample S-032905-PP-296 was analyzed at a dilution due to high analyte concentrations or matrix interference. Corrective action is not required for dilutions.

Internal standard areas were outside acceptance limits for sample(s) S-032905-PP-294 due to matrix effects (Chrysene-d12 out low).

Sample(s) S-032905-PP-289, S-032905-PP-293, S-032905-PP-294, and S-032905-PP-295 had elevated reporting limits due to matrix interference.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C300215

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032905-PP-284 03/29/05 10:06 001</b>				
Arsenic	84.8	6.5	mg/kg	SW846 6010B
Benzo(a)pyrene	4100	2900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	3000	2900	ug/kg	SW846 8270C
Benzo(a)anthracene	7800	2900	ug/kg	SW846 8270C
Percent Solids	77.1	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-285 03/29/05 10:08 002</b>				
Arsenic	233	6.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	11000	2700	ug/kg	SW846 8270C
Benzo(a)pyrene	7000	2700	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	3600	2700	ug/kg	SW846 8270C
Benzo(a)anthracene	9800	2700	ug/kg	SW846 8270C
Percent Solids	80.9	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-286 03/29/05 10:10 003</b>				
Arsenic	41.0	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	34000	7800	ug/kg	SW846 8270C
Benzo(a)pyrene	24000	7800	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	12000	7800	ug/kg	SW846 8270C
Benzo(a)anthracene	31000	7800	ug/kg	SW846 8270C
Percent Solids	84.1	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-287 03/29/05 10:11 004</b>				
Arsenic	631	5.8	mg/kg	SW846 6010B
Benzo(b)fluoranthene	530	380	ug/kg	SW846 8270C
Naphthalene	760	380	ug/kg	SW846 8270C
Benzo(a)anthracene	410	380	ug/kg	SW846 8270C
Percent Solids	86.8	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-288 03/29/05 10:12 005</b>				
Arsenic	275	5.6	mg/kg	SW846 6010B
Percent Solids	89.2	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-289 03/29/05 10:15 006</b>				
Arsenic	118	5.9	mg/kg	SW846 6010B
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5C300215

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032905-PP-290 03/29/05 10:17 007</b>				
Arsenic	100	6.0	mg/kg	SW846 6010B
Benzo(b)fluoranthene	26000	7900	ug/kg	SW846 8270C
Benzo(a)pyrene	17000	7900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	8900	7900	ug/kg	SW846 8270C
Benzo(a)anthracene	25000	7900	ug/kg	SW846 8270C
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-291 03/29/05 10:19 008</b>				
Arsenic	41.6	6.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	5300	2700	ug/kg	SW846 8270C
Benzo(a)pyrene	3900	2700	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2900	2700	ug/kg	SW846 8270C
Naphthalene	4800	2700	ug/kg	SW846 8270C
Benzo(a)anthracene	4100	2700	ug/kg	SW846 8270C
Percent Solids	80.4	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-292 03/29/05 10:21 009</b>				
Arsenic	31.0	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	150000	150000	ug/kg	SW846 8270C
Naphthalene	620000	150000	ug/kg	SW846 8270C
Benzo(a)anthracene	190000	150000	ug/kg	SW846 8270C
Percent Solids	85.4	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-293 03/29/05 10:23 010</b>				
Arsenic	8.7	6.2	mg/kg	SW846 6010B
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-294 03/29/05 10:27 011</b>				
Arsenic	12.5	6.0	mg/kg	SW846 6010B
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-295 03/29/05 10:28 012</b>				
Arsenic	25.5	6.2	mg/kg	SW846 6010B
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5C300215

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-032905-PP-296 03/29/05 10:30 013</b>				
Arsenic	25.4	8.7	mg/kg	SW846 6010B
Benzo(b)fluoranthene	8700	2300	ug/kg	SW846 8270C
Benzo(a)pyrene	5000	2300	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2900	2300	ug/kg	SW846 8270C
Benzo(a)anthracene	7200	2300	ug/kg	SW846 8270C
Percent Solids	57.5	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-297 03/29/05 10:32 014</b>				
Arsenic	22.8	6.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	500	410	ug/kg	SW846 8270C
Percent Solids	81.3	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-298 03/29/05 10:35 015</b>				
Arsenic	170	6.6	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2400	880	ug/kg	SW846 8270C
Benzo(a)pyrene	1300	880	ug/kg	SW846 8270C
Benzo(a)anthracene	1800	880	ug/kg	SW846 8270C
Percent Solids	75.3	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-299 03/29/05 10:37 016</b>				
Arsenic	31.9	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1600	780	ug/kg	SW846 8270C
Benzo(a)pyrene	1000	780	ug/kg	SW846 8270C
Naphthalene	1600	780	ug/kg	SW846 8270C
Benzo(a)anthracene	1500	780	ug/kg	SW846 8270C
Percent Solids	84.3	10.0	%	MCAWW 160.3 MOD
<b>S-032905-PP-300 03/29/05 10:39 017</b>				
Arsenic	13.2	6.2	mg/kg	SW846 6010B
Percent Solids	80.8	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C300215

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C300215

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G7APM	001	S-032905-PP-284	03/29/05	10:06
G7APP	002	S-032905-PP-285	03/29/05	10:08
G7APQ	003	S-032905-PP-286	03/29/05	10:10
G7APR	004	S-032905-PP-287	03/29/05	10:11
G7APT	005	S-032905-PP-288	03/29/05	10:12
G7APV	006	S-032905-PP-289	03/29/05	10:15
G7APW	007	S-032905-PP-290	03/29/05	10:17
G7APX	008	S-032905-PP-291	03/29/05	10:19
G7AP0	009	S-032905-PP-292	03/29/05	10:21
G7AP1	010	S-032905-PP-293	03/29/05	10:23
G7AP2	011	S-032905-PP-294	03/29/05	10:27
G7AP3	012	S-032905-PP-295	03/29/05	10:28
G7AP4	013	S-032905-PP-296	03/29/05	10:30
G7AP5	014	S-032905-PP-297	03/29/05	10:32
G7AP6	015	S-032905-PP-298	03/29/05	10:35
G7AP7	016	S-032905-PP-299	03/29/05	10:37
G7AP8	017	S-032905-PP-300	03/29/05	10:39
G7AP9	018	W-032905-PP-510	03/29/05	10:55

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-284

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-001    Work Order #...: G7APM1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:06    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 6.66  
 % Moisture.....: 23    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	2900	ug/kg
<b>Benzo(a)pyrene</b>	<b>4100</b>	<b>2900</b>	<b>ug/kg</b>
Dibenz(a,h)anthracene	ND	2900	ug/kg
Dibenzofuran	ND	2900	ug/kg
<b>Indeno(1,2,3-cd)pyrene</b>	<b>3000</b>	<b>2900</b>	<b>ug/kg</b>
4-Methylphenol	ND	2900	ug/kg
Naphthalene	ND	2900	ug/kg
<b>Benzo(a)anthracene</b>	<b>7800</b>	<b>2900</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	77 DIL	(42 - 110)
2-Fluorobiphenyl	61 DIL	(43 - 110)
Terphenyl-d14	66 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	66 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-284

TOTAL Metals

Lot-Sample #...: A5C300215-001

Matrix.....: SO

Date Sampled...: 03/29/05 10:06 Date Received...: 03/30/05

% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	84.8	6.5	mg/kg	SW846 6010B	03/31-04/01/05	G7APM1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-284

General Chemistry

Lot-Sample #...: A5C300215-001    Work Order #...: G7APM    Matrix.....: SO  
Date Sampled...: 03/29/05 10:06    Date Received..: 03/30/05  
% Moisture.....: 23

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.1	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-285

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-002    Work Order #...: G7APP1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:08    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 6.66  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	11000	2700	ug/kg
Benzo(a)pyrene	7000	2700	ug/kg
Dibenz(a,h)anthracene	ND	2700	ug/kg
Dibenzofuran	ND	2700	ug/kg
Indeno(1,2,3-cd)pyrene	3600	2700	ug/kg
4-Methylphenol	ND	2700	ug/kg
Naphthalene	ND	2700	ug/kg
Benzo(a)anthracene	9800	2700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	90 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
Phenol-d5	58 DIL	(25 - 115)
2-Fluorophenol	57 DIL	(11 - 116)
2,4,6-Tribromophenol	52 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-285

TOTAL Metals

Lot-Sample #...: A5C300215-002

Matrix.....: SO

Date Sampled...: 03/29/05 10:08 Date Received...: 03/30/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	233	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7APP1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-285

General Chemistry

Lot-Sample #...: A5C300215-002    Work Order #...: G7APP    Matrix.....: SO  
Date Sampled...: 03/29/05 10:08    Date Received..: 03/30/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.9	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-286

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-003    Work Order #...: G7APQ1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:10    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 20  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	34000	7800	ug/kg
Benzo(a)pyrene	24000	7800	ug/kg
Dibenz(a,h)anthracene	ND	7800	ug/kg
Dibenzofuran	ND	7800	ug/kg
Indeno(1,2,3-cd)pyrene	12000	7800	ug/kg
4-Methylphenol	ND	7800	ug/kg
Naphthalene	ND	7800	ug/kg
Benzo(a)anthracene	31000	7800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	95 DIL	(42 - 110)
2-Fluorobiphenyl	70 DIL	(43 - 110)
Terphenyl-d14	85 DIL	(37 - 137)
Phenol-d5	74 DIL	(25 - 115)
2-Fluorophenol	76 DIL	(11 - 116)
2,4,6-Tribromophenol	61 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-286

TOTAL Metals

Lot-Sample #...: A5C300215-003

Matrix.....: SO

Date Sampled...: 03/29/05 10:10 Date Received...: 03/30/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	41.0	5.9	mg/kg	SW846 6010B	03/31-04/01/05	G7APQ1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-286

General Chemistry

Lot-Sample #...: A5C300215-003    Work Order #...: G7APQ    Matrix.....: SO  
Date Sampled...: 03/29/05 10:10    Date Received..: 03/30/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.1	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-287

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-004    Work Order #...: G7APR1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:11    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/05/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 1  
 % Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>530</b>	<b>380</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	380	ug/kg
Dibenz(a,h)anthracene	ND	380	ug/kg
Dibenzofuran	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
<b>Naphthalene</b>	<b>760</b>	<b>380</b>	<b>ug/kg</b>
<b>Benzo(a)anthracene</b>	<b>410</b>	<b>380</b>	<b>ug/kg</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	73	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	77	(37 - 137)
Phenol-d5	65	(25 - 115)
2-Fluorophenol	60	(11 - 116)
2,4,6-Tribromophenol	45	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-287

TOTAL Metals

Lot-Sample #...: A5C300215-004

Matrix.....: SO

Date Sampled...: 03/29/05 10:11 Date Received...: 03/30/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	631	5.8	mg/kg	SW846 6010B	03/31-04/01/05	G7APR1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-287

General Chemistry

Lot-Sample #...: A5C300215-004    Work Order #...: G7APR    Matrix.....: SO  
Date Sampled...: 03/29/05 10:11    Date Received..: 03/30/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.8	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-288

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-005    Work Order #...: G7APT1AD    Matrix.....: SO  
Date Sampled...: 03/29/05 10:12    Date Received...: 03/30/05  
Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
Prep Batch #...: 5089300  
Dilution Factor: 1  
% Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	370	ug/kg
Benzo(a)pyrene	ND	370	ug/kg
Dibenz(a,h)anthracene	ND	370	ug/kg
Dibenzofuran	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
4-Methylphenol	ND	370	ug/kg
Naphthalene	ND	370	ug/kg
Benzo(a)anthracene	ND	370	ug/kg

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	78	(42 - 110)
2-Fluorobiphenyl	70	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	68	(25 - 115)
2-Fluorophenol	68	(11 - 116)
2,4,6-Tribromophenol	75	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-288

TOTAL Metals

Lot-Sample #...: A5C300215-005

Matrix.....: SO

Date Sampled...: 03/29/05 10:12 Date Received...: 03/30/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	275	5.6	mg/kg	SW846 6010B	03/31-04/01/05	G7APT1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-288

General Chemistry

Lot-Sample #...: A5C300215-005    Work Order #...: G7APT    Matrix.....: SO  
Date Sampled...: 03/29/05 10:12    Date Received..: 03/30/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.2	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-289

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-006    Work Order #...: G7APV1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:15    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 50  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	19000	ug/kg
Benzo(a)pyrene	ND	19000	ug/kg
Dibenz(a,h)anthracene	ND	19000	ug/kg
Dibenzofuran	ND	19000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	19000	ug/kg
4-Methylphenol	ND	19000	ug/kg
Naphthalene	ND	19000	ug/kg
Benzo(a)anthracene	ND	19000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	76 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-289

TOTAL Metals

Lot-Sample #...: A5C300215-006

Matrix.....: SO

Date Sampled...: 03/29/05 10:15 Date Received...: 03/30/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	118	5.9	mg/kg	SW846 6010B	03/31-04/01/05	G7APV1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-289

General Chemistry

Lot-Sample #...: A5C300215-006    Work Order #...: G7APV    Matrix.....: SO  
Date Sampled...: 03/29/05 10:15    Date Received..: 03/30/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-290

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-007    Work Order #...: G7APW1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:17    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 20  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	26000	7900	ug/kg
Benzo(a)pyrene	17000	7900	ug/kg
Dibenz(a,h)anthracene	ND	7900	ug/kg
Dibenzofuran	ND	7900	ug/kg
Indeno(1,2,3-cd)pyrene	8900	7900	ug/kg
4-Methylphenol	ND	7900	ug/kg
Naphthalene	ND	7900	ug/kg
Benzo(a)anthracene	25000	7900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	90 DIL	(42 - 110)
2-Fluorobiphenyl	65 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	69 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	65 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-290

TOTAL Metals

Lot-Sample #...: A5C300215-007

Matrix.....: SO

Date Sampled...: 03/29/05 10:17 Date Received...: 03/30/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	100	6.0	mg/kg	SW846 6010B	03/31-04/01/05	G7APW1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-290

General Chemistry

Lot-Sample #...: A5C300215-007    Work Order #...: G7APW    Matrix.....: SO  
Date Sampled...: 03/29/05 10:17    Date Received..: 03/30/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.0	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-291

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-008    Work Order #...: G7APX1AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:19    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 6.66  
 % Moisture.....: 20    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	5300	2700	ug/kg
Benzo(a)pyrene	3900	2700	ug/kg
Dibenz(a,h)anthracene	ND	2700	ug/kg
Dibenzofuran	ND	2700	ug/kg
Indeno(1,2,3-cd)pyrene	2900	2700	ug/kg
4-Methylphenol	ND	2700	ug/kg
Naphthalene	4800	2700	ug/kg
Benzo(a)anthracene	4100	2700	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	83 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	72 DIL	(37 - 137)
Phenol-d5	64 DIL	(25 - 115)
2-Fluorophenol	63 DIL	(11 - 116)
2,4,6-Tribromophenol	83 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-291

TOTAL Metals

Lot-Sample #...: A5C300215-008

Matrix.....: SO

Date Sampled...: 03/29/05 10:19 Date Received...: 03/30/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	41.6	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7APX1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-291

General Chemistry

Lot-Sample #...: A5C300215-008    Work Order #...: G7APX    Matrix.....: SO  
Date Sampled...: 03/29/05 10:19    Date Received..: 03/30/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.4	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-292

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-009    Work Order #...: G7AP01AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:21    Date Received..: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date..: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 400  
 % Moisture.....: 15    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>Benzo(b)fluoranthene</b>	<b>150000</b>	<b>150000</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	150000	ug/kg
Dibenz(a,h)anthracene	ND	150000	ug/kg
Dibenzofuran	ND	150000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	150000	ug/kg
4-Methylphenol	ND	150000	ug/kg
<b>Naphthalene</b>	<b>620000</b>	<b>150000</b>	<b>ug/kg</b>
<b>Benzo(a)anthracene</b>	<b>190000</b>	<b>150000</b>	<b>ug/kg</b>

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-292

TOTAL Metals

Lot-Sample #...: A5C300215-009

Matrix.....: SO

Date Sampled...: 03/29/05 10:21 Date Received...: 03/30/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	31.0	5.9	mg/kg	SW846 6010B	03/31-04/01/05	G7AP01AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-292

General Chemistry

Lot-Sample #...: A5C300215-009    Work Order #...: G7AP0    Matrix.....: SO  
Date Sampled...: 03/29/05 10:21    Date Received..: 03/30/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.4	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-293

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-010    Work Order #...: G7AP11AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:23    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 50  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	20000	ug/kg
Benzo(a)pyrene	ND	20000	ug/kg
Dibenz(a,h)anthracene	ND	20000	ug/kg
Dibenzofuran	ND	20000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	20000	ug/kg
4-Methylphenol	ND	20000	ug/kg
Naphthalene	ND	20000	ug/kg
Benzo(a)anthracene	ND	20000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-293

TOTAL Metals

Lot-Sample #...: A5C300215-010

Matrix.....: SO

Date Sampled...: 03/29/05 10:23 Date Received...: 03/30/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	8.7	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7AP11AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-293

General Chemistry

Lot-Sample #...: A5C300215-010    Work Order #...: G7AP1    Matrix.....: SO  
Date Sampled...: 03/29/05 10:23    Date Received..: 03/30/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-294

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-011    Work Order #...: G7AP21AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:27    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 50  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	20000	ug/kg
Benzo(a)pyrene	ND	20000	ug/kg
Dibenz(a,h)anthracene	ND	20000	ug/kg
Dibenzofuran	ND	20000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	20000	ug/kg
4-Methylphenol	ND	20000	ug/kg
Naphthalene	ND	20000	ug/kg
Benzo(a)anthracene	ND	20000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-294

TOTAL Metals

Lot-Sample #...: A5C300215-011

Matrix.....: SO

Date Sampled...: 03/29/05 10:27 Date Received...: 03/30/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	12.5	6.0	mg/kg	SW846 6010B	03/31-04/01/05	G7AP21AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-294

General Chemistry

Lot-Sample #...: A5C300215-011    Work Order #...: G7AP2    Matrix.....: SO  
Date Sampled...: 03/29/05 10:27    Date Received..: 03/30/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.6	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-295

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-012    Work Order #...: G7AP31AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:28    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 50  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	20000	ug/kg
Benzo(a)pyrene	ND	20000	ug/kg
Dibenz(a,h)anthracene	ND	20000	ug/kg
Dibenzofuran	ND	20000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	20000	ug/kg
4-Methylphenol	ND	20000	ug/kg
Naphthalene	ND	20000	ug/kg
Benzo(a)anthracene	ND	20000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-295

TOTAL Metals

Lot-Sample #...: A5C300215-012

Matrix.....: SO

Date Sampled...: 03/29/05 10:28 Date Received...: 03/30/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	25.5	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7AP31AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-295

General Chemistry

Lot-Sample #...: A5C300215-012    Work Order #...: G7AP3    Matrix.....: SO  
Date Sampled...: 03/29/05 10:28    Date Received..: 03/30/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.2	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-296

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-013    Work Order #...: G7AP41AF    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:30    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 4  
 % Moisture.....: 43    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	8700	2300	ug/kg
Benzo(a)pyrene	5000	2300	ug/kg
Dibenz(a,h)anthracene	ND	2300	ug/kg
Dibenzofuran	ND	2300	ug/kg
Indeno(1,2,3-cd)pyrene	2900	2300	ug/kg
4-Methylphenol	ND	2300	ug/kg
Naphthalene	ND	2300	ug/kg
Benzo(a)anthracene	7200	2300	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	90 DIL	(42 - 110)
2-Fluorobiphenyl	71 DIL	(43 - 110)
Terphenyl-d14	81 DIL	(37 - 137)
Phenol-d5	68 DIL	(25 - 115)
2-Fluorophenol	55 DIL	(11 - 116)
2,4,6-Tribromophenol	54 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-296

TOTAL Metals

Lot-Sample #...: A5C300215-013

Matrix.....: SO

Date Sampled...: 03/29/05 10:30 Date Received...: 03/30/05

% Moisture.....: 43

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	25.4	8.7	mg/kg	SW846 6010B	03/31-04/01/05	G7AP41AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-296

General Chemistry

Lot-Sample #...: A5C300215-013    Work Order #...: G7AP4    Matrix.....: SO  
Date Sampled...: 03/29/05 10:30    Date Received..: 03/30/05  
% Moisture.....: 43

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	57.5	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-297

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-014    Work Order #...: G7AP51AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:32    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 1  
 % Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzo(b)fluoranthene</b>	<b>500</b>	<b>410</b>	<b>ug/kg</b>
Benzo(a)pyrene	ND	410	ug/kg
Dibenz(a,h)anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
Benzo(a)anthracene	ND	410	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	62	(43 - 110)
Terphenyl-d14	73	(37 - 137)
Phenol-d5	60	(25 - 115)
2-Fluorophenol	55	(11 - 116)
2,4,6-Tribromophenol	42	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-297

TOTAL Metals

Lot-Sample #...: A5C300215-014

Matrix.....: SO

Date Sampled...: 03/29/05 10:32 Date Received...: 03/30/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	22.8	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7AP51AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-297

General Chemistry

Lot-Sample #...: A5C300215-014    Work Order #...: G7AP5    Matrix.....: SO  
Date Sampled...: 03/29/05 10:32    Date Received..: 03/30/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	81.3	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-298

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-015    Work Order #...: G7AP61AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:35    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 2  
 % Moisture.....: 25    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	2400	880	ug/kg
Benzo(a)pyrene	1300	880	ug/kg
Dibenz(a,h)anthracene	ND	880	ug/kg
Dibenzofuran	ND	880	ug/kg
Indeno(1,2,3-cd)pyrene	ND	880	ug/kg
4-Methylphenol	ND	880	ug/kg
Naphthalene	ND	880	ug/kg
Benzo(a)anthracene	1800	880	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	72 DIL	(42 - 110)
2-Fluorobiphenyl	61 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	56 DIL	(25 - 115)
2-Fluorophenol	42 DIL	(11 - 116)
2,4,6-Tribromophenol	38 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-298

TOTAL Metals

Lot-Sample #...: A5C300215-015

Matrix.....: SO

Date Sampled...: 03/29/05 10:35 Date Received...: 03/30/05

% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	170	6.6	mg/kg	SW846 6010B	03/31-04/01/05	G7AP61AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-298

General Chemistry

Lot-Sample #...: A5C300215-015    Work Order #...: G7AP6    Matrix.....: SO  
Date Sampled...: 03/29/05 10:35    Date Received..: 03/30/05  
% Moisture.....: 25

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	75.3	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-299

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-016    Work Order #...: G7AP71AD    Matrix.....: SO  
 Date Sampled...: 03/29/05 10:37    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 2  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	1600	780	ug/kg
Benzo(a)pyrene	1000	780	ug/kg
Dibenz(a,h)anthracene	ND	780	ug/kg
Dibenzofuran	ND	780	ug/kg
Indeno(1,2,3-cd)pyrene	ND	780	ug/kg
4-Methylphenol	ND	780	ug/kg
Naphthalene	1600	780	ug/kg
Benzo(a)anthracene	1500	780	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	67 DIL	(42 - 110)
2-Fluorobiphenyl	54 DIL	(43 - 110)
Terphenyl-d14	60 DIL	(37 - 137)
Phenol-d5	59 DIL	(25 - 115)
2-Fluorophenol	55 DIL	(11 - 116)
2,4,6-Tribromophenol	63 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-299

TOTAL Metals

Lot-Sample #...: A5C300215-016

Matrix.....: SO

Date Sampled...: 03/29/05 10:37 Date Received...: 03/30/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	31.9	5.9	mg/kg	SW846 6010B	03/31-04/01/05	G7AP71AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-299

General Chemistry

Lot-Sample #...: A5C300215-016    Work Order #...: G7AP7    Matrix.....: SO  
Date Sampled...: 03/29/05 10:37    Date Received..: 03/30/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.3	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-300

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-017    Work Order #...: G7AP81AD    Matrix.....: SO  
Date Sampled...: 03/29/05 10:39    Date Received...: 03/30/05  
Prep Date.....: 03/30/05    Analysis Date...: 04/01/05  
Prep Batch #...: 5089300  
Dilution Factor: 1  
% Moisture.....: 19    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	410	ug/kg
Benzo(a)pyrene	ND	410	ug/kg
Dibenz(a,h)anthracene	ND	410	ug/kg
Dibenzofuran	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
Benzo(a)anthracene	ND	410	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	65	(42 - 110)
2-Fluorobiphenyl	56	(43 - 110)
Terphenyl-d14	68	(37 - 137)
Phenol-d5	58	(25 - 115)
2-Fluorophenol	55	(11 - 116)
2,4,6-Tribromophenol	52	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-300

TOTAL Metals

Lot-Sample #...: A5C300215-017

Matrix.....: SO

Date Sampled...: 03/29/05 10:39 Date Received...: 03/30/05

% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5090017

Arsenic	13.2	6.2	mg/kg	SW846 6010B	03/31-04/01/05	G7AP81AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-032905-PP-300

General Chemistry

Lot-Sample #...: A5C300215-017    Work Order #...: G7AP8    Matrix.....: SO  
Date Sampled...: 03/29/05 10:39    Date Received..: 03/30/05  
% Moisture.....: 19

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	80.8	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032905-PP-510

GC/MS Semivolatiles

Lot-Sample #...: A5C300215-018    Work Order #...: G7AP91AC    Matrix.....: WG  
 Date Sampled...: 03/29/05 10:55    Date Received...: 03/30/05  
 Prep Date.....: 03/30/05    Analysis Date...: 04/01/05  
 Prep Batch #...: 5089410  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	67	( 32 - 112)
2-Fluorobiphenyl	50	( 30 - 110)
Terphenyl-d14	78	( 10 - 144)
Phenol-d5	57	( 10 - 113)
2-Fluorophenol	57	( 13 - 110)
2,4,6-Tribromophenol	69	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-032905-PP-510

TOTAL Metals

Lot-Sample #...: A5C300215-018

Matrix.....: WG

Date Sampled...: 03/29/05 10:55 Date Received...: 03/30/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5090010						
Arsenic	ND	0.010	mg/L	SW846 6010B	03/31-04/01/05	G7AP91AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215  
MB Lot-Sample #: A5C300000-300

Work Order #...: G7AVR1AA

Matrix.....: SOLID

Analysis Date...: 04/01/05  
Dilution Factor: 1

Prep Date.....: 03/30/05

Prep Batch #...: 5089300

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	78	( 42 - 110)
2-Fluorobiphenyl	68	( 43 - 110)
Terphenyl-d14	84	( 37 - 137)
Phenol-d5	80	( 25 - 115)
2-Fluorophenol	81	( 11 - 116)
2,4,6-Tribromophenol	75	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215  
MB Lot-Sample #: A5C300000-410

Work Order #...: G7CDG1AA

Matrix.....: WATER

Prep Date.....: 03/30/05

Analysis Date..: 04/01/05

Prep Batch #...: 5089410

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70	( 32 - 112)
2-Fluorobiphenyl	60	( 30 - 110)
Terphenyl-d14	81	( 10 - 144)
Phenol-d5	62	( 10 - 113)
2-Fluorophenol	61	( 13 - 110)
2,4,6-Tribromophenol	72	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5C310000-010		Prep Batch #...: 5090010				
Arsenic	ND	0.010	mg/L	SW846 6010B	03/31-04/01/05	G7DD41AU
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5C310000-017		<b>Prep Batch #...</b> : 5090017				
Arsenic	ND	1.0	mg/kg	SW846 6010B	03/31-04/01/05	G7DEK1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C300215

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G7E3G1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C310000-399 03/31-04/01/05	5090399
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215      Work Order #...: G7AVR1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C300000-300  
 Prep Date.....: 03/30/05      Analysis Date...: 04/01/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	69	(45 - 110)	SW846 8270C
Acenaphthene	68	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	71	(48 - 111)	SW846 8270C
Pyrene	79	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	86	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	81	(38 - 110)	SW846 8270C
Pentachlorophenol	53	(10 - 123)	SW846 8270C
Phenol	74	(35 - 110)	SW846 8270C
2-Chlorophenol	70	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	73	(43 - 110)	SW846 8270C
4-Nitrophenol	66	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	67	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	76	(25 - 115)
2-Fluorophenol	79	(11 - 116)
2,4,6-Tribromophenol	78	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215      Work Order #...: G7CDG1AC-LCS      Matrix.....: WATER  
 LCS Lot-Sample#: A5C300000-410      G7CDG1AD-LCSD  
 Prep Date.....: 03/30/05      Analysis Date...: 04/01/05  
 Prep Batch #...: 5089410  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	69	(31 - 110)			SW846 8270C
	67	(31 - 110)	2.0	(0-37)	SW846 8270C
Acenaphthene	73	(39 - 118)			SW846 8270C
	75	(39 - 118)	2.3	(0-35)	SW846 8270C
2,4-Dinitrotoluene	76	(47 - 131)			SW846 8270C
	76	(47 - 131)	0.56	(0-32)	SW846 8270C
Pyrene	83	(46 - 130)			SW846 8270C
	84	(46 - 130)	1.5	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl- amine	91	(30 - 115)			SW846 8270C
	103	(30 - 115)	13	(0-36)	SW846 8270C
1,4-Dichlorobenzene	72	(28 - 110)			SW846 8270C
	79	(28 - 110)	10	(0-36)	SW846 8270C
Pentachlorophenol	69	(10 - 140)			SW846 8270C
	61	(10 - 140)	11	(0-56)	SW846 8270C
Phenol	73	(10 - 131)			SW846 8270C
	75	(10 - 131)	3.0	(0-43)	SW846 8270C
2-Chlorophenol	69	(19 - 124)			SW846 8270C
	72	(19 - 124)	3.9	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	78	(29 - 124)			SW846 8270C
	76	(29 - 124)	1.8	(0-55)	SW846 8270C
4-Nitrophenol	75	(19 - 144)			SW846 8270C
	74	(19 - 144)	0.94	(0-34)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	80	(32 - 112)
	84	(32 - 112)
2-Fluorobiphenyl	68	(30 - 110)
	72	(30 - 110)
Terphenyl-d14	83	(10 - 144)
	85	(10 - 144)
Phenol-d5	73	(10 - 113)
	77	(10 - 113)
2-Fluorophenol	71	(13 - 110)
	72	(13 - 110)
2,4,6-Tribromophenol	79	(21 - 122)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215      Work Order #...: G7CDG1AC-LCS      Matrix.....: WATER  
LCS Lot-Sample#: A5C300000-410      G7CDG1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	81	(21 - 122)

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-----------------------------------	----------------------------------	---------------	---	---------------------

LCS Lot-Sample#: A5C310000-010 Prep Batch #...: 5090010

Arsenic 98 (80 - 120) SW846 6010B 03/31-04/01/05 G7DD41AX

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-----------------------------------	----------------------------------	---------------	---	---------------------

LCS Lot-Sample#: A5C310000-017 Prep Batch #...: 5090017

Arsenic 82 (80 - 120) SW846 6010B 03/31-04/01/05 G7DEK1AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215      Work Order #...: G7AP41AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5C300215-013      G7AP41AH-MSD  
 Date Sampled...: 03/29/05 10:30      Date Received...: 03/30/05  
 Prep Date.....: 03/30/05      Analysis Date...: 04/04/05  
 Prep Batch #...: 5089300  
 Dilution Factor: 4

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	60 DIL	(16 - 121)			SW846 8270C
	54 DIL	(16 - 121)	11	(0-54)	SW846 8270C
Acenaphthene	62 DIL	(13 - 133)			SW846 8270C
	58 DIL	(13 - 133)	6.8	(0-44)	SW846 8270C
2,4-Dinitrotoluene	70 DIL	(10 - 171)			SW846 8270C
	65 DIL	(10 - 171)	6.9	(0-45)	SW846 8270C
Pyrene	0.0 DIL,a	(10 - 218)			SW846 8270C
	0.0 DIL,a	(10 - 218)	0.0	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	83 DIL	(12 - 128)			SW846 8270C
	71 DIL	(12 - 128)	16	(0-50)	SW846 8270C
1,4-Dichlorobenzene	68 DIL	(18 - 110)			SW846 8270C
	64 DIL	(18 - 110)	5.8	(0-59)	SW846 8270C
Pentachlorophenol	90 DIL	(10 - 144)			SW846 8270C
	87 DIL	(10 - 144)	2.8	(0-87)	SW846 8270C
Phenol	84 DIL	(10 - 148)			SW846 8270C
	44 DIL	(10 - 148)	23	(0-50)	SW846 8270C
2-Chlorophenol	64 DIL	(17 - 116)			SW846 8270C
	54 DIL	(17 - 116)	17	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	62 DIL	(17 - 128)			SW846 8270C
	56 DIL	(17 - 128)	10	(0-55)	SW846 8270C
4-Nitrophenol	60 DIL	(10 - 148)			SW846 8270C
	55 DIL	(10 - 148)	8.6	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	70 DIL	(42 - 110)
	64 DIL	(42 - 110)
2-Fluorobiphenyl	56 DIL	(43 - 110)
	49 DIL	(43 - 110)
Terphenyl-d14	63 DIL	(37 - 137)
	56 DIL	(37 - 137)
Phenol-d5	56 DIL	(25 - 115)
	51 DIL	(25 - 115)
2-Fluorophenol	49 DIL	(11 - 116)
	47 DIL	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C300215      Work Order #...: G7AP41AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5C300215-013      G7AP41AH-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	45 DIL	(35 - 116)
	38 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: WATER

Date Sampled...: 03/29/05 09:30 Date Received...: 03/30/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C300119-001 Prep Batch #...: 5090010

Arsenic	113	(75 - 125)			SW846 6010B	03/31-04/01/05	G690M1CJ
	111	(75 - 125)	2.2	(0-20)	SW846 6010B	03/31-04/01/05	G690M1CK

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C300215

Matrix.....: SO

Date Sampled...: 03/29/05 10:30 Date Received...: 03/30/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C300215-013 Prep Batch #...: 5090017

Arsenic	76	(75 - 125)			SW846 6010B	03/31-04/01/05	G7AP41AD
	80	(75 - 125)	4.4	(0-20)	SW846 6010B	03/31-04/01/05	G7AP41AE

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C300215

Work Order #...: G7APM-SMP  
G7APM-DUP

Matrix.....: SO

Date Sampled...: 03/29/05 10:06 Date Received...: 03/30/05

% Moisture.....: 23

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	77.1	78.4	%	1.6	(0-20)	SD Lot-Sample #: A5C300215-001 MCAWW 160.3 MOD	03/31-04/01/05	5090399

Dilution Factor: 1



**CONESTOGA-ROVERS & ASSOCIATES**  
 8615 W. Bryn Mawr Avenue  
 Chicago, Illinois 60631  
 (773)380-9933 phone  
 (773)380-6421 fax



SHIPPED TO  
 (Laboratory Name):

STL North Canton

CHAIN-OF-CUSTODY RECORD

REFERENCE NUMBER:  
 019023-84

PROJECT NAME:  
 Waukegan MGP Coke Site

SAMPLER'S SIGNATURE: *[Signature]*

PRINTED NAME: Pritesh Pathak

PARAMETERS:  
 Total Altrac site specific

SEC. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. of CONTAINERS	REMARKS
	3/29/05	10:06	S-032905-PP-	Soil	1	
	3/29/05	10:08	S-032905-PP-	Soil	1	
	3/29/05	10:10	S-032905-PP-	Soil	1	
	3/29/05	10:11	S-032905-PP-	Soil	1	
	3/29/05	10:12	S-032905-PP-	Soil	1	
	3/29/05	10:15	S-032905-PP-	Soil	1	
	3/29/05	10:17	S-032905-PP-	Soil	1	
	3/29/05	10:19	S-032905-PP-	Soil	1	
	3/29/05	10:21	S-032905-PP-	Soil	1	
	3/29/05	10:23	S-032905-PP-	Soil	1	
	3/29/05	10:27	S-032905-PP-	Soil	1	
	3/29/05	10:28	S-032905-PP-	Soil	1	
	3/29/05	10:30	S-032905-PP-	Soil	2	
	3/29/05	10:32	S-032905-PP-	Soil	1	
	3/29/05	10:35	S-032905-PP-	Soil	1	
TOTAL NUMBER OF CONTAINERS					16	2 WK TAT

MS/MSD

RELINQUISHED BY: <i>[Signature]</i>	DATE: 3-29-05	RECEIVED BY: <i>[Signature]</i>	DATE: 3-29-05
	TIME: 15:00		TIME: 15:00
RELINQUISHED BY: <i>[Signature]</i>	DATE: _____	RECEIVED BY: <i>[Signature]</i>	DATE: _____
	TIME: _____		TIME: _____
RELINQUISHED BY: <i>[Signature]</i>	DATE: _____	RECEIVED BY: <i>[Signature]</i>	DATE: _____
	TIME: _____		TIME: _____

METHOD OF SHIPMENT: **FED EX** AIR BILL No. **8490 1342 6791**

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: **P. PATHAK**

RECEIVED FOR LABORATORY BY: *[Signature]* 13065

DATE: 3/30/05 TIME: 10:20 AM

**CONESTOGA-ROVERS & ASSOCIATES**  
 8615 W. Bryn Mawr Avenue  
 Chicago, Illinois 60631  
 (773)380-9933 phone  
 (773)380-6421 fax



SHIPPED TO  
 (Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan MAP Cake Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: Pritesh Pathak

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
3/29/05 10 <sup>37</sup>	3/29/05	10 <sup>37</sup>	S-032905-PP-299	Soil	1	XX	
3/29/05 10 <sup>39</sup>	3/29/05	10 <sup>39</sup>	S-032905-PP-300	Soil	1	XX	
3/29/05 10 <sup>55</sup>	3/29/05	10 <sup>55</sup>	W-032905-PP-510	water	3	XX	
TOTAL NUMBER OF CONTAINERS 5							

2 WK TAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 3-29-05	TIME: 15 <sup>00</sup>	RECEIVED BY: ②	DATE:	TIME:
RELINQUISHED BY: ②	DATE:	TIME:	RECEIVED BY: ③	DATE:	TIME:
RELINQUISHED BY: ③	DATE:	TIME:	RECEIVED BY: ④	DATE:	TIME:

METHOD OF SHIPMENT: FEDEX

AIR BILL No. 8490 1342 6791

SAMPLE TEAM:  
 P. PATHAK

RECEIVED FOR LABORATORY BY:  
 Amy Madhup  
 DATE: 3/29/05 TIME: 10:20 AM

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

1001-00(SOURCE)GN-CO004

**STL Cooler Receipt Form/Narrative**

Lot Number: ASC300215

**North Canton Facility**

Client: CRA Project: Waukegan Map Coke Site Quote#: \_\_\_\_\_  
 Cooler Received on: 3-30-05 Opened on: 3-30-05 by: Ann Madhup  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# 3601 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 32 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

\_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

\_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
<u>PPS10</u>	<u>6.2</u>	<u>3-30-05</u>	<u>AM</u>



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023-84**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5C310195**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

  
**Amy L. McCormick**  
Project Manager

**April 6, 2005**

## **CASE NARRATIVE**

A5C310195

The following report contains the analytical results for one solid sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The sample was received March 31, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 5, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 26.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 6.7° C. with wet ice present.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5C310195

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-033005-PP-301 03/30/05 09:08 001				
Arsenic	8.1	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	8700	2600	ug/kg	SW846 8270C
Benzo(a)pyrene	6400	2600	ug/kg	SW846 8270C
Dibenzofuran	3800	2600	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	3800	2600	ug/kg	SW846 8270C
Naphthalene	9500	2600	ug/kg	SW846 8270C
Benzo(a)anthracene	8200	2600	ug/kg	SW846 8270C
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5C310195

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5C310195

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G7ECC	001	S-033005-PP-301	03/30/05	09:08

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-033005-PP-301

GC/MS Semivolatiles

Lot-Sample #...: A5C310195-001    Work Order #...: G7ECC1AD    Matrix.....: SO  
 Date Sampled...: 03/30/05 09:08    Date Received...: 03/31/05  
 Prep Date.....: 03/31/05    Analysis Date...: 04/04/05  
 Prep Batch #...: 5090409  
 Dilution Factor: 6.66  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	8700	2600	ug/kg
Benzo(a)pyrene	6400	2600	ug/kg
Dibenz(a,h)anthracene	ND	2600	ug/kg
Dibenzofuran	3800	2600	ug/kg
Indeno(1,2,3-cd)pyrene	3800	2600	ug/kg
4-Methylphenol	ND	2600	ug/kg
Naphthalene	9500	2600	ug/kg
Benzo(a)anthracene	8200	2600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
Terphenyl-d14	76 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	58 DIL	(11 - 116)
2,4,6-Tribromophenol	64 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-033005-PP-301

TOTAL Metals

Lot-Sample #...: A5C310195-001

Matrix.....: SO

Date Sampled...: 03/30/05 09:08 Date Received...: 03/31/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5094040

Arsenic	8.1	5.9	mg/kg	SW846 6010B	04/04-04/05/05	G7ECC1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-033005-PP-301

General Chemistry

Lot-Sample #...: A5C310195-001    Work Order #...: G7ECC    Matrix.....: SO  
Date Sampled...: 03/30/05 09:08    Date Received..: 03/31/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.2	10.0	%	MCAWW 160.3 MOD	03/31-04/01/05	5090395

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5C310195  
MB Lot-Sample #: A5C310000-409

Work Order #...: G7E4Q1AA

Matrix.....: SOLID

Analysis Date...: 04/04/05  
Dilution Factor: 1

Prep Date.....: 03/31/05

Prep Batch #...: 5090409

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	75	( 42 - 110)
2-Fluorobiphenyl	71	( 43 - 110)
Terphenyl-d14	84	( 37 - 137)
Phenol-d5	72	( 25 - 115)
2-Fluorophenol	78	( 11 - 116)
2,4,6-Tribromophenol	73	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5C310195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D040000-040		<b>Prep Batch #...</b> : 5094040				
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/04-04/05/05	G7KRC1AR
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5C310195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G7E3E1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5C310000-395 03/31-04/01/05	5090395
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C310195      Work Order #...: G7E4Q1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5C310000-409  
 Prep Date.....: 03/31/05      Analysis Date...: 04/04/05  
 Prep Batch #...: 5090409  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	80	(45 - 110)	SW846 8270C
Acenaphthene	85	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	89	(48 - 111)	SW846 8270C
Pyrene	91	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	94	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	88	(38 - 110)	SW846 8270C
Pentachlorophenol	77	(10 - 123)	SW846 8270C
Phenol	79	(35 - 110)	SW846 8270C
2-Chlorophenol	76	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	78	(43 - 110)	SW846 8270C
4-Nitrophenol	73	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	88	(42 - 110)
2-Fluorobiphenyl	87	(43 - 110)
Terphenyl-d14	102	(37 - 137)
Phenol-d5	86	(25 - 115)
2-Fluorophenol	87	(11 - 116)
2,4,6-Tribromophenol	96	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C310195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5D040000-040 Prep Batch #...: 5094040

Arsenic 85 (80 - 120) SW846 6010B 04/04-04/05/05 G7KRC1CE

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5C310195      Work Order #...: G7D1L1CC-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5C310156-002      G7D1L1CD-MSD  
 Date Sampled...: 03/30/05 09:30      Date Received...: 03/31/05  
 Prep Date.....: 03/31/05      Analysis Date...: 04/04/05  
 Prep Batch #...: 5090409  
 Dilution Factor: 1      % Moisture.....: 23

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Acenaphthene	81	(13 - 133)			SW846 8270C
	87	(13 - 133)	7.6	(0-44)	SW846 8270C
2,4-Dinitrotoluene	83	(10 - 171)			SW846 8270C
	90	(10 - 171)	7.9	(0-45)	SW846 8270C
Pyrene	84	(10 - 218)			SW846 8270C
	92	(10 - 218)	9.2	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	91	(12 - 128)			SW846 8270C
	102	(12 - 128)	12	(0-50)	SW846 8270C
Pentachlorophenol	77	(10 - 144)			SW846 8270C
	84	(10 - 144)	8.4	(0-87)	SW846 8270C
Phenol	79	(10 - 148)			SW846 8270C
	89	(10 - 148)	12	(0-50)	SW846 8270C
2-Chlorophenol	76	(17 - 116)			SW846 8270C
	83	(17 - 116)	8.8	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	77	(17 - 128)			SW846 8270C
	87	(17 - 128)	12	(0-55)	SW846 8270C
4-Nitrophenol	70	(10 - 148)			SW846 8270C
	69	(10 - 148)	0.40	(0-64)	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	87	(42 - 110)
	90	(42 - 110)
2-Fluorobiphenyl	74	(43 - 110)
	83	(43 - 110)
Terphenyl-d14	83	(37 - 137)
	94	(37 - 137)
Phenol-d5	79	(25 - 115)
	89	(25 - 115)
2-Fluorophenol	74	(11 - 116)
	90	(11 - 116)
2,4,6-Tribromophenol	84	(35 - 116)
	92	(35 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters  
 Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C310195

Matrix.....: SOLID

Date Sampled...: 03/30/05 08:45 Date Received...: 03/31/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5C310176-003 Prep Batch #...: 5094040

% Moisture.....: 20

Arsenic	80	(75 - 125)			SW846 6010B	04/04-04/05/05	G7D5X1AK
	82	(75 - 125)	2.1	(0-20)	SW846 6010B	04/04-04/05/05	G7D5X1AL

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5C310195

Matrix.....: SOLID

Date Sampled...: 03/31/05 10:45 Date Received...: 04/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D010163-001 Prep Batch #...: 5094040

% Moisture.....: 22

Arsenic	76	(75 - 125)			SW846 6010B	04/04-04/05/05	G7GW51C9
	75	(75 - 125)	1.7	(0-20)	SW846 6010B	04/04-04/05/05	G7GW51DA

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5C310195

Work Order #...: G7A0V-SMP  
G7A0V-DUP

Matrix.....: SOLID

Date Sampled...: 03/28/05 10:10 Date Received...: 03/30/05

% Moisture.....: 18

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	82.4	81.9	%	0.58	(0-20)	SD Lot-Sample #: A5C300242-005 MCAWW 160.3 MOD	03/31-04/01/05	5090395

Dilution Factor: 1



**STL Cooler Receipt Form/Narrative**

Lot Number: \_\_\_\_\_

**North Canton Facility**

Client: CRA  
Cooler Received on: 3/31/05

Project: \_\_\_\_\_  
Opened on: 3/31/05

Quote#: \_\_\_\_\_  
by: Quarantillo  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 6.7 °C (see back of form for multiple coolers/temp) see below

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No  NA

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM alm Date: 3/31/05 by: alm via Voice Mail  Verbal  Other

Concerning: light temp

**1. CHAIN OF CUSTODY**  
The following discrepancies occurred:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet

recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH;  
Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**  
There were 2 small bags of ice w/ the sample.

Client ID	pH	Date	Initials



***END OF REPORT***

SEVERN

TRENT

STL

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: ASD020176

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

April 11, 2005

# **CASE NARRATIVE**

A5D020176

The following report contains the analytical results for one solid sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The sample was received April 2, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 8, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 26.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 3.3° C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Spike recoveries were outside quality control acceptance criteria in the laboratory control sample associated with batch 5095021. Since the recoveries were out high and there were no hits detected in any of the associated samples, corrective action was not initiated and the results were accepted.

The matrix spike/matrix spike duplicate(s) for S-040105-PP-302 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5D020176

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
S-040105-PP-302 04/01/05 12:30 001				
Arsenic	2.0	1.2	mg/kg	SW846 6010B
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5D020176

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5D020176

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G7KF3	001	S-040105-PP-302	04/01/05	12:30

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040105-PP-302

GC/MS Semivolatiles

Lot-Sample #...: A5D020176-001    Work Order #...: G7KF31AJ    Matrix.....: SO  
 Date Sampled...: 04/01/05 12:30    Date Received...: 04/02/05  
 Prep Date.....: 04/05/05    Analysis Date...: 04/07/05  
 Prep Batch #...: 5095021  
 Dilution Factor: 1  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	400	ug/kg
Benzo(a)pyrene	ND	400	ug/kg
Dibenz(a,h)anthracene	ND	400	ug/kg
Dibenzofuran	ND	400	ug/kg
Indeno(1,2,3-cd)pyrene	ND	400	ug/kg
4-Methylphenol	ND	400	ug/kg
Naphthalene	ND	400	ug/kg
Benzo(a)anthracene	ND	400	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	84	( 42 - 110)
2-Fluorobiphenyl	62	( 43 - 110)
Terphenyl-d14	87	( 37 - 137)
Phenol-d5	83	( 25 - 115)
2-Fluorophenol	75	( 11 - 116)
2,4,6-Tribromophenol	88	( 35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040105-PP-302

TOTAL Metals

Lot-Sample #...: A5D020176-001

Matrix.....: SO

Date Sampled...: 04/01/05 12:30 Date Received...: 04/02/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5094033

Arsenic	2.0	1.2	mg/kg	SW846 6010B	04/04-04/05/05	G7KF31AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040105-PP-302

General Chemistry

Lot-Sample #...: A5D020176-001    Work Order #...: G7KF3    Matrix.....: SO  
Date Sampled...: 04/01/05 12:30    Date Received..: 04/02/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	82.9	10.0	%	MCAWW 160.3 MOD	04/04-04/05/05	5094267

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5D020176  
MB Lot-Sample #: A5D050000-021

Work Order #...: G7MN01AA

Matrix.....: SOLID

Prep Date.....: 04/05/05

Analysis Date..: 04/07/05

Prep Batch #...: 5095021

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	( 42 - 110)
2-Fluorobiphenyl	63	( 43 - 110)
Terphenyl-d14	73	( 37 - 137)
Phenol-d5	81	( 25 - 115)
2-Fluorophenol	74	( 11 - 116)
2,4,6-Tribromophenol	75	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5D020176

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D040000-033		<b>Prep Batch #...</b> : 5094033				
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/04-04/05/05	G7KQ11AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5D020176

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G7NKF1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5D040000-267 04/04-04/05/05	5094267
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D020176      Work Order #...: G7MN01AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5D050000-021  
 Prep Date.....: 04/05/05      Analysis Date...: 04/07/05  
 Prep Batch #...: 5095021  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	84	(45 - 110)	SW846 8270C
Acenaphthene	84	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	90	(48 - 111)	SW846 8270C
Pyrene	91	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	123 a	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	95	(38 - 110)	SW846 8270C
Pentachlorophenol	59	(10 - 123)	SW846 8270C
Phenol	94	(35 - 110)	SW846 8270C
2-Chlorophenol	78	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	96	(43 - 110)	SW846 8270C
4-Nitrophenol	100	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	99	(42 - 110)
2-Fluorobiphenyl	73	(43 - 110)
Terphenyl-d14	86	(37 - 137)
Phenol-d5	91	(25 - 115)
2-Fluorophenol	84	(11 - 116)
2,4,6-Tribromophenol	88	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D020176

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5D040000-033 Prep Batch #...: 5094033

Arsenic 93 (80 - 120) SW846 6010B 04/04-04/05/05 G7KQ11AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D020176      Work Order #...: G7KF31AK-MS      Matrix.....: SO  
 MS Lot-Sample #: A5D020176-001      G7KF31AL-MSD  
 Date Sampled...: 04/01/05 12:30      Date Received...: 04/02/05  
 Prep Date.....: 04/05/05      Analysis Date...: 04/07/05  
 Prep Batch #...: 5095021  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	82	(16 - 121)			SW846 8270C
	76	(16 - 121)	6.8	(0-54)	SW846 8270C
Acenaphthene	93	(13 - 133)			SW846 8270C
	83	(13 - 133)	10	(0-44)	SW846 8270C
2,4-Dinitrotoluene	100	(10 - 171)			SW846 8270C
	87	(10 - 171)	14	(0-45)	SW846 8270C
Pyrene	96	(10 - 218)			SW846 8270C
	100	(10 - 218)	3.4	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	131 a	(12 - 128)			SW846 8270C
	121	(12 - 128)	7.1	(0-50)	SW846 8270C
1,4-Dichlorobenzene	79	(18 - 110)			SW846 8270C
	72	(18 - 110)	9.7	(0-59)	SW846 8270C
Pentachlorophenol	40	(10 - 144)			SW846 8270C
	26	(10 - 144)	43	(0-87)	SW846 8270C
Phenol	103	(10 - 148)			SW846 8270C
	96	(10 - 148)	5.9	(0-50)	SW846 8270C
2-Chlorophenol	83	(17 - 116)			SW846 8270C
	79	(17 - 116)	4.9	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	104	(17 - 128)			SW846 8270C
	96	(17 - 128)	7.7	(0-55)	SW846 8270C
4-Nitrophenol	104	(10 - 148)			SW846 8270C
	87	(10 - 148)	17	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	98	(42 - 110)
	97	(42 - 110)
2-Fluorobiphenyl	80	(43 - 110)
	71	(43 - 110)
Terphenyl-d14	91	(37 - 137)
	85	(37 - 137)
Phenol-d5	95	(25 - 115)
	90	(25 - 115)
2-Fluorophenol	86	(11 - 116)
	83	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D020176      Work Order #...: G7KF31AK-MS      Matrix.....: SO  
MS Lot-Sample #: A5D020176-001      G7KF31AL-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	96	(35 - 116)
	82	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D020176

Matrix.....: SO

Date Sampled...: 04/01/05 12:30 Date Received...: 04/02/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D020176-001 Prep Batch #...: 5094033

Arsenic	88	(75 - 125)			SW846 6010B	04/04-04/05/05	G7KF31AD
	93	(75 - 125)	5.5	(0-20)	SW846 6010B	04/04-04/05/05	G7KF31AE

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5D020176

Work Order #...: G7E70-SMP  
G7E70-DUP

Matrix.....: SOLID

Date Sampled...: 03/29/05 13:34 Date Received...: 03/31/05

% Moisture.....: 24

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	75.8	75.2	%	0.82	(0-20)	SD Lot-Sample #: A5C310298-005 MCAWW 160.3 MOD	04/04-04/05/05	5094267

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5D020176

Work Order #...: G7J4H-SMP  
G7J4H-DUP

Matrix.....: SOLID

Date Sampled...: 04/01/05 12:25 Date Received...: 04/02/05

% Moisture.....: 23

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	77.2	76.7	%	0.62	(0-20)	SD Lot-Sample #: A5D020130-001 MCAWW 160.3 MOD	04/04-04/05/05	5094267

Dilution Factor: 1



**STL Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: ASD020174

Client: CRA Project: Waukegan MGP Coke Quote#: 48891  
 Cooler Received on: 4-02-05 Opened on: 4-02-05 by: Ann Maddux  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA   
 2. Shipper's packing slip attached to this form? Yes  No  NA   
 3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No   
 4. Did you sign the custody papers in the appropriate place? Yes  No   
 5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_  
 6. Cooler temperature upon receipt 3.3 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None   
 7. Did all bottles arrive in good condition (Unbroken)? Yes  No   
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No   
 9. Were samples at the correct pH? (record below/on back) Yes  No  NA   
 10. Were correct bottles used for the tests indicated? Yes  No   
 11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA   
 12. Sufficient quantity received to perform indicated analyses? Yes  No   
 Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5D090139

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

April 18, 2005

## **CASE NARRATIVE**

A5D090139

The following report contains the analytical results for two solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received April 9, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 13, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 22.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.9° C.

## **CASE NARRATIVE (continued)**

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5D090139

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-040805-PP-307 04/08/05 11:08 001</b>				
Arsenic	870	1.4	mg/kg	SW846 6010B
Percent Solids	73.9	10.0	%	MCAWW 160.3 MOD
<b>S-040805-PP-308 04/08/05 11:11 002</b>				
Arsenic	379	1.2	mg/kg	SW846 6010B
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5D090139

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5D090139

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G73RX	001	S-040805-PP-307	04/08/05	11:08
G73R3	002	S-040805-PP-308	04/08/05	11:11

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040805-PP-307

TOTAL Metals

Lot-Sample #...: A5D090139-001

Matrix.....: SO

Date Sampled...: 04/08/05 11:08 Date Received...: 04/09/05

% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5101032

Arsenic	870	1.4	mg/kg	SW846 6010B	04/11/05	G73RX1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040805-PP-307

General Chemistry

Lot-Sample #...: A5D090139-001    Work Order #...: G73RX    Matrix.....: SO  
Date Sampled...: 04/08/05 11:08    Date Received...: 04/09/05  
% Moisture.....: 26

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.9	10.0	%	MCAWW 160.3 MOD	04/11-04/12/05	5101615

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040805-PP-308

TOTAL Metals

Lot-Sample #...: A5D090139-002

Matrix.....: SO

Date Sampled...: 04/08/05 11:11 Date Received...: 04/09/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5101032

Arsenic	379	1.2	mg/kg	SW846 6010B	04/11/05	G73R31AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-040805-PP-308

General Chemistry

Lot-Sample #...: A5D090139-002    Work Order #...: G73R3    Matrix.....: SO  
Date Sampled...: 04/08/05 11:11    Date Received..: 04/09/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.8	10.0	%	MCAWW 160.3 MOD	04/11-04/12/05	5101615

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5D090139

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D110000-032		<b>Prep Batch #...</b> : 5101032				
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/11/05	G74NX1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5D090139

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G76MD1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5D110000-615 04/11-04/12/05	5101615
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D090139

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5D110000-032	Prep Batch #...:	5101032		
Arsenic	87	(80 - 120)	SW846 6010B	04/11/05	G74NX1A3
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D090139

Matrix.....: SOLID

Date Sampled...: 04/07/05 08:25 Date Received...: 04/08/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D080206-002 Prep Batch #...: 5101032

% Moisture.....: 19

Arsenic	83	(75 - 125)			SW846 6010B	04/11/05	G70931AK
	85	(75 - 125)	2.7	(0-20)	SW846 6010B	04/11/05	G70931AL

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5D090139

Work Order #...: G73PF-SMP  
G73PF-DUP

Matrix.....: SOLID

Date Sampled...: 04/08/05 08:15 Date Received...: 04/09/05

% Moisture.....: 24

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	76.1	78.2	%	2.7	(0-20)	MCAWW 160.3 MOD	04/11-04/12/05	5101615
							SD Lot-Sample #: A5D090129-001	
Dilution Factor: 1								



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan MCP Cate Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *Pritesh Pathak*

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
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4/8/05	11 <sup>08</sup>		S-040805-PP-307	Soil	2	X	
4/8/05	11 <sup>11</sup>		S-040805-PP-308	Soil	2	X	

TOTAL NUMBER OF CONTAINERS

2 WIC TAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 4-8-05	RECEIVED BY: ②	DATE:
	TIME: 1500		TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY: ③	DATE:
	TIME:		TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY: ④	DATE:
	TIME:		TIME:

METHOD OF SHIPMENT: FEDEX

AIR BILL No. 8490 1342 7055

- White -Fully Executed Copy
- Yellow -Receiving Laboratory Copy
- Pink -Shipper Copy
- Goldenrod -Sampler Copy

SAMPLE TEAM:

P. PATHAK

RECEIVED FOR LABORATORY BY: *[Signature]*

DATE: 4-9-05 TIME: 9:05

13070

**STL Cooler Receipt Form/Narrative**

Lot Number: ASD090139

**North Canton Facility**

Client: CRA  
Cooler Received on: 4-9-05

Project: \_\_\_\_\_  
Opened on: 4-9-05

Quote#: 45933  
by: Diana Miter  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA

If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA

2. Shipper's packing slip attached to this form? Yes  No  NA

3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No

4. Did you sign the custody papers in the appropriate place? Yes  No

5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_

6. Cooler temperature upon receipt 4.9 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: ASD120195

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

April 19, 2005

# **CASE NARRATIVE**

A5D120195

The following report contains the analytical results for five solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received April 12, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 18, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 38.

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 4.4° C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

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Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

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At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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## EXECUTIVE SUMMARY - Detection Highlights

A5D120195

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-041105-PP-303 04/11/05 10:58 001</b>				
Arsenic	21.4	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	9800	2500	ug/kg	SW846 8270C
Benzo(a)pyrene	7000	2500	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	4100	2500	ug/kg	SW846 8270C
Benzo(a)anthracene	8700	2500	ug/kg	SW846 8270C
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD
<b>S-041105-PP-304 04/11/05 10:50 002</b>				
Arsenic	80.2	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	12000	3900	ug/kg	SW846 8270C
Benzo(a)pyrene	9200	3900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	5500	3900	ug/kg	SW846 8270C
Benzo(a)anthracene	12000	3900	ug/kg	SW846 8270C
Percent Solids	85.3	10.0	%	MCAWW 160.3 MOD
<b>S-041105-PP-305 04/11/05 11:15 003</b>				
Arsenic	19.0	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	1700	710	ug/kg	SW846 8270C
Benzo(a)pyrene	1200	710	ug/kg	SW846 8270C
Benzo(a)anthracene	1500	710	ug/kg	SW846 8270C
Percent Solids	92.6	10.0	%	MCAWW 160.3 MOD
<b>S-041105-PP-306 04/11/05 11:25 004</b>				
Arsenic	5.1	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	9600	2400	ug/kg	SW846 8270C
Benzo(a)pyrene	5200	2400	ug/kg	SW846 8270C
Dibenzofuran	2700	2400	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	2400	2400	ug/kg	SW846 8270C
Benzo(a)anthracene	10000	2400	ug/kg	SW846 8270C
Percent Solids	92.9	10.0	%	MCAWW 160.3 MOD
<b>S-041105-PP-309 04/11/05 12:47 005</b>				
Arsenic	943	1.3	mg/kg	SW846 6010B
Benzo(b)fluoranthene	13000	2800	ug/kg	SW846 8270C
Benzo(a)pyrene	8300	2800	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	4100	2800	ug/kg	SW846 8270C
Benzo(a)anthracene	13000	2800	ug/kg	SW846 8270C
Percent Solids	79.8	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5D120195

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5D120195

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G769N	001	S-041105-PP-303	04/11/05	10:58
G7690	002	S-041105-PP-304	04/11/05	10:50
G7691	003	S-041105-PP-305	04/11/05	11:15
G7693	004	S-041105-PP-306	04/11/05	11:25
G7695	005	S-041105-PP-309	04/11/05	12:47

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-303

GC/MS Semivolatiles

Lot-Sample #...: A5D120195-001    Work Order #...: G769N1AD    Matrix.....: SO  
 Date Sampled...: 04/11/05 10:58    Date Received...: 04/12/05  
 Prep Date.....: 04/12/05    Analysis Date...: 04/18/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 6.66  
 % Moisture.....: 11    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	9800	2500	ug/kg
Benzo(a)pyrene	7000	2500	ug/kg
Dibenz(a,h)anthracene	ND	2500	ug/kg
Dibenzofuran	ND	2500	ug/kg
Indeno(1,2,3-cd)pyrene	4100	2500	ug/kg
4-Methylphenol	ND	2500	ug/kg
Naphthalene	ND	2500	ug/kg
Benzo(a)anthracene	8700	2500	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	53 DIL	(42 - 110)
2-Fluorobiphenyl	48 DIL	(43 - 110)
Terphenyl-d14	53 DIL	(37 - 137)
Phenol-d5	38 DIL	(25 - 115)
2-Fluorophenol	39 DIL	(11 - 116)
2,4,6-Tribromophenol	33 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-303

TOTAL Metals

Lot-Sample #...: A5D120195-001

Matrix.....: SO

Date Sampled...: 04/11/05 10:58 Date Received...: 04/12/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5103028

Arsenic	21.4	1.1	mg/kg	SW846 6010B	04/13/05	G769N1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-303

General Chemistry

Lot-Sample #...: A5D120195-001    Work Order #...: G769N    Matrix.....: SO  
Date Sampled...: 04/11/05 10:58    Date Received..: 04/12/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD	04/12-04/13/05	5103134

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-304

GC/MS Semivolatiles

Lot-Sample #...: A5D120195-002    Work Order #...: G76901AD    Matrix.....: SO  
 Date Sampled...: 04/11/05 10:50    Date Received...: 04/12/05  
 Prep Date.....: 04/12/05    Analysis Date...: 04/18/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 10  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	12000	3900	ug/kg
Benzo(a)pyrene	9200	3900	ug/kg
Dibenz(a,h)anthracene	ND	3900	ug/kg
Dibenzofuran	ND	3900	ug/kg
Indeno(1,2,3-cd)pyrene	5500	3900	ug/kg
4-Methylphenol	ND	3900	ug/kg
Naphthalene	ND	3900	ug/kg
Benzo(a)anthracene	12000	3900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80 DIL	(42 - 110)
2-Fluorobiphenyl	69 DIL	(43 - 110)
Terphenyl-d14	82 DIL	(37 - 137)
Phenol-d5	58 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	44 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-304

TOTAL Metals

Lot-Sample #...: A5D120195-002

Matrix.....: SO

Date Sampled...: 04/11/05 10:50 Date Received...: 04/12/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5103028

Arsenic	80.2	1.2	mg/kg	SW846 6010B	04/13/05	G76901AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-304

General Chemistry

Lot-Sample #...: A5D120195-002    Work Order #...: G7690    Matrix.....: SO  
Date Sampled...: 04/11/05 10:50    Date Received..: 04/12/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.3	10.0	%	MCAWW 160.3 MOD	04/12-04/13/05	5103134

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-305

GC/MS Semivolatiles

Lot-Sample #...: A5D120195-003    Work Order #...: G76911AD    Matrix.....: SO  
 Date Sampled...: 04/11/05 11:15    Date Received...: 04/12/05  
 Prep Date.....: 04/12/05    Analysis Date...: 04/18/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 2  
 % Moisture.....: 7.4    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	1700	710	ug/kg
Benzo(a)pyrene	1200	710	ug/kg
Dibenz(a,h)anthracene	ND	710	ug/kg
Dibenzofuran	ND	710	ug/kg
Indeno(1,2,3-cd)pyrene	ND	710	ug/kg
4-Methylphenol	ND	710	ug/kg
Naphthalene	ND	710	ug/kg
Benzo(a)anthracene	1500	710	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	57 DIL	(42 - 110)
2-Fluorobiphenyl	51 DIL	(43 - 110)
Terphenyl-d14	62 DIL	(37 - 137)
Phenol-d5	45 DIL	(25 - 115)
2-Fluorophenol	44 DIL	(11 - 116)
2,4,6-Tribromophenol	34 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-305

TOTAL Metals

Lot-Sample #...: A5D120195-003

Matrix.....: SO

Date Sampled...: 04/11/05 11:15 Date Received...: 04/12/05

% Moisture.....: 7.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5103028

Arsenic	19.0	1.1	mg/kg	SW846 6010B	04/13/05	G76911AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-305

General Chemistry

Lot-Sample #...: A5D120195-003    Work Order #...: G7691    Matrix.....: SO  
Date Sampled...: 04/11/05 11:15    Date Received...: 04/12/05  
% Moisture.....: 7.4

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.6	10.0	%	MCAWW 160.3 MOD	04/12-04/13/05	5103134

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-306

GC/MS Semivolatiles

Lot-Sample #...: A5D120195-004    Work Order #...: G76931AD    Matrix.....: SO  
 Date Sampled...: 04/11/05 11:25    Date Received...: 04/12/05  
 Prep Date.....: 04/12/05    Analysis Date...: 04/18/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 6.66  
 % Moisture.....: 7.1    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	9600	2400	ug/kg
Benzo(a)pyrene	5200	2400	ug/kg
Dibenz(a,h)anthracene	ND	2400	ug/kg
Dibenzofuran	2700	2400	ug/kg
Indeno(1,2,3-cd)pyrene	2400	2400	ug/kg
4-Methylphenol	ND	2400	ug/kg
Naphthalene	ND	2400	ug/kg
Benzo(a)anthracene	10000	2400	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	80 DIL	(42 - 110)
2-Fluorobiphenyl	76 DIL	(43 - 110)
Terphenyl-d14	99 DIL	(37 - 137)
Phenol-d5	72 DIL	(25 - 115)
2-Fluorophenol	67 DIL	(11 - 116)
2,4,6-Tribromophenol	43 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-306

TOTAL Metals

Lot-Sample #...: A5D120195-004

Matrix.....: SO

Date Sampled...: 04/11/05 11:25 Date Received...: 04/12/05

% Moisture.....: 7.1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5103028

Arsenic	5.1	1.1	mg/kg	SW846 6010B	04/13/05	G76931AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-306

General Chemistry

Lot-Sample #...: A5D120195-004    Work Order #...: G7693    Matrix.....: SO  
Date Sampled...: 04/11/05 11:25    Date Received..: 04/12/05  
% Moisture.....: 7.1

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	92.9	10.0	%	MCAWW 160.3 MOD	04/12-04/13/05	5103134

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-309

GC/MS Semivolatiles

Lot-Sample #...: A5D120195-005    Work Order #...: G76951AD    Matrix.....: SO  
 Date Sampled...: 04/11/05 12:47    Date Received...: 04/12/05  
 Prep Date.....: 04/12/05    Analysis Date...: 04/18/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 6.66  
 % Moisture.....: 20    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	13000	2800	ug/kg
Benzo(a)pyrene	8300	2800	ug/kg
Dibenz(a,h)anthracene	ND	2800	ug/kg
Dibenzofuran	ND	2800	ug/kg
Indeno(1,2,3-cd)pyrene	4100	2800	ug/kg
4-Methylphenol	ND	2800	ug/kg
Naphthalene	ND	2800	ug/kg
Benzo(a)anthracene	13000	2800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85 DIL	(42 - 110)
2-Fluorobiphenyl	77 DIL	(43 - 110)
Terphenyl-d14	98 DIL	(37 - 137)
Phenol-d5	79 DIL	(25 - 115)
2-Fluorophenol	71 DIL	(11 - 116)
2,4,6-Tribromophenol	70 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-309

TOTAL Metals

Lot-Sample #...: A5D120195-005

Matrix.....: SO

Date Sampled...: 04/11/05 12:47 Date Received...: 04/12/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5103028

Arsenic	943	1.3	mg/kg	SW846 6010B	04/13/05	G76951AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041105-PP-309

General Chemistry

Lot-Sample #...: A5D120195-005    Work Order #...: G7695    Matrix.....: SO  
Date Sampled...: 04/11/05 12:47    Date Received..: 04/12/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.8	10.0	%	MCAWW 160.3 MOD	04/12-04/13/05	5103134

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5D120195  
MB Lot-Sample #: A5D120000-335

Work Order #...: G77DL1AA

Matrix.....: SOLID

Prep Date.....: 04/12/05

Analysis Date..: 04/13/05

Prep Batch #...: 5102335

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	78	( 42 - 110)
2-Fluorobiphenyl	74	( 43 - 110)
Terphenyl-d14	91	( 37 - 137)
Phenol-d5	74	( 25 - 115)
2-Fluorophenol	81	( 11 - 116)
2,4,6-Tribromophenol	82	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5D120195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D130000-028		<b>Prep Batch #...</b> : 5103028				
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/13/05	G78H01AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5D120195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G78PM1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5D130000-134 04/12-04/13/05	5103134
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D120195      Work Order #...: G77DL1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5D120000-335  
 Prep Date.....: 04/12/05      Analysis Date...: 04/13/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	87	(45 - 110)	SW846 8270C
Acenaphthene	89	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	91	(48 - 111)	SW846 8270C
Pyrene	94	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	100	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	96	(38 - 110)	SW846 8270C
Pentachlorophenol	77	(10 - 123)	SW846 8270C
Phenol	88	(35 - 110)	SW846 8270C
2-Chlorophenol	85	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	82	(43 - 110)	SW846 8270C
4-Nitrophenol	74	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	90	(42 - 110)
2-Fluorobiphenyl	85	(43 - 110)
Terphenyl-d14	97	(37 - 137)
Phenol-d5	85	(25 - 115)
2-Fluorophenol	91	(11 - 116)
2,4,6-Tribromophenol	92	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D120195

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5D130000-028	Prep Batch #...:	5103028		
Arsenic	92	(80 - 120)	SW846 6010B	04/13/05	G78H01AC
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D120195      Work Order #...: G766J1A9-MS      Matrix.....: SOLID  
 MS Lot-Sample #: A5D120186-001      G766J1CA-MSD  
 Date Sampled...: 04/11/05 10:50      Date Received...: 04/12/05  
 Prep Date.....: 04/12/05      Analysis Date...: 04/15/05  
 Prep Batch #...: 5102335  
 Dilution Factor: 1      % Moisture.....: 20

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	73	(16 - 121)			SW846 8270C
	69	(16 - 121)	6.9	(0-54)	SW846 8270C
Acenaphthene	81	(13 - 133)			SW846 8270C
	80	(13 - 133)	1.4	(0-44)	SW846 8270C
2,4-Dinitrotoluene	88	(10 - 171)			SW846 8270C
	91	(10 - 171)	4.1	(0-45)	SW846 8270C
Pyrene	70	(10 - 218)			SW846 8270C
	76	(10 - 218)	5.3	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	94	(12 - 128)			SW846 8270C
	87	(12 - 128)	7.6	(0-50)	SW846 8270C
1,4-Dichlorobenzene	78	(18 - 110)			SW846 8270C
	78	(18 - 110)	0.05	(0-59)	SW846 8270C
Pentachlorophenol	50	(10 - 144)			SW846 8270C
	71	(10 - 144)	36	(0-87)	SW846 8270C
Phenol	79	(10 - 148)			SW846 8270C
	72	(10 - 148)	10	(0-50)	SW846 8270C
2-Chlorophenol	74	(17 - 116)			SW846 8270C
	68	(17 - 116)	8.0	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	80	(17 - 128)			SW846 8270C
	81	(17 - 128)	1.6	(0-55)	SW846 8270C
4-Nitrophenol	84	(10 - 148)			SW846 8270C
	88	(10 - 148)	4.3	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	79	(42 - 110)
	71	(42 - 110)
2-Fluorobiphenyl	73	(43 - 110)
	66	(43 - 110)
Terphenyl-d14	91	(37 - 137)
	88	(37 - 137)
Phenol-d5	76	(25 - 115)
	66	(25 - 115)
2-Fluorophenol	77	(11 - 116)
	67	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D120195  
MS Lot-Sample #: A5D120186-001

Work Order #...: G766J1A9-MS  
G766J1CA-MSD

Matrix.....: SOLID

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	83 79	(35 - 116) (35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D120195

Matrix.....: SOLID

Date Sampled...: 04/07/05 15:00 Date Received...: 04/09/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: C5D090173-021 Prep Batch #...: 5103028

% Moisture.....: 13

Arsenic	86	(75 - 125)			SW846 6010B	04/13/05	G73611AF
	83	(75 - 125)	2.3	(0-20)	SW846 6010B	04/13/05	G73611AG

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.







**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019223-84

PROJECT NAME:

Waukegan, MCP Cole Site

CHAIN-OF-CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: Pr. Tesh Pathak

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	PARAMETERS	REMARKS
106	4/11/05	10:58	S-044705-PP-303	Soil	1	X	
105	4/11/05	10:50	S-044705-PP-304	Soil	1	X	
105	4/11/05	11:15	S-044705-PP-305	Soil	1	X	
105	4/11/05	11:25	S-044705-PP-306	Soil	1	X	
105	4/11/05	12:47	S-044705-PP-309	Soil	1	X	

TOTAL NUMBER OF CONTAINERS

4/11/05

5

2 WLC TAT

RELINQUISHED BY: *[Signature]* DATE: 4/11/05 RECEIVED BY: DATE: \_\_\_\_\_ TIME: 1:50 PM RECEIVED BY: DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: FEDEX AIR BILL NO. 8490 1342 6758

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: P. PARTHAIC

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 4-12-05 TIME: 10:30

13069

**STL Cooler Receipt Form/Narrative**

Lot Number: ASD120195

**North Canton Facility**

Client: CRA  
Cooler Received on: 4-12-05

Project: Wastewater, M&P  
Opened on: 4-12-05

Quote#: \_\_\_\_\_  
by: [Signature]  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# LS9 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.4 °C (see back of form for multiple coolers/temp)  
METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
  7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other
- Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***

SEVERN

TRENT

STL

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: ASD130157

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

April 20, 2005

# CASE NARRATIVE

A5D130157

The following report contains the analytical results for fourteen solid samples and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received April 13, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on April 20, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 87.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.9° C.

## **CASE NARRATIVE (continued)**

### **GC/MS VOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GC/MS SEMIVOLATILES**

Sample(s) S-041205-PP-310, S-041205-PP-313, S-041205-PP-317, S-041205-PP-077, and S-041205-PP-079 had elevated reporting limits due to matrix interference.

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample(s) S-041205-PP-312, S-041205-PP-314, S-041205-PP-319, and S-041205-PP-320 due to high analyte concentrations.

The matrix spike/matrix spike duplicate associated with sample S-041205-PP-316 was analyzed at a dilution due to high analyte concentrations or matrix interference. Corrective action is not required for dilutions.

The matrix spike/matrix spike duplicate associated with batch 5103336 was to be performed on an unrelated sample and was canceled prior to analysis. Since the laboratory control sample and method blank met acceptance criteria, corrective action was not initiated and the results were accepted.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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## EXECUTIVE SUMMARY - Detection Highlights

A5D130157

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-041205-PP-310 04/12/05 12:46 001</b>				
Arsenic	116	1.2	mg/kg	SW846 6010B
Naphthalene	14000	7800	ug/kg	SW846 8270C
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-311 04/12/05 12:51 002</b>				
Arsenic	39.6	1.2	mg/kg	SW846 6010B
Naphthalene	5000000	1900000	ug/kg	SW846 8270C
Percent Solids	86.1	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-312 04/12/05 12:53 003</b>				
Arsenic	183	1.1	mg/kg	SW846 6010B
Naphthalene	1100000 E	75000	ug/kg	SW846 8270C
Naphthalene	1300000	930000	ug/kg	SW846 8270C
Percent Solids	88.3	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-313 04/12/05 12:55 004</b>				
Arsenic	1730	6.4	mg/kg	SW846 6010B
Percent Solids	77.7	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-314 04/12/05 13:02 005</b>				
Arsenic	42.3	1.1	mg/kg	SW846 6010B
Naphthalene	430000 E	75000	ug/kg	SW846 8270C
Naphthalene	450000	370000	ug/kg	SW846 8270C
Percent Solids	88.2	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-315 04/12/05 13:03 006</b>				
Arsenic	28.1	1.1	mg/kg	SW846 6010B
Naphthalene	240000	51000	ug/kg	SW846 8270C
Percent Solids	87.1	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-316 04/12/05 13:05 007</b>				
Arsenic	8.3	1.2	mg/kg	SW846 6010B
Benzo(b)fluoranthene	13000	3800	ug/kg	SW846 8270C
Benzo(a)pyrene	11000	3800	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	4800	3800	ug/kg	SW846 8270C
Benzo(a)anthracene	10000	3800	ug/kg	SW846 8270C
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5D130157

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-041205-PP-317 04/12/05 13:07 008</b>				
Arsenic	12.0	1.1	mg/kg	SW846 6010B
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-318 04/12/05 13:09 009</b>				
Arsenic	145	1.2	mg/kg	SW846 6010B
Naphthalene	10000	2600	ug/kg	SW846 8270C
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-319 04/12/05 13:12 010</b>				
Arsenic	554	1.2	mg/kg	SW846 6010B
Naphthalene	650000 E	78000	ug/kg	SW846 8270C
Naphthalene	710000	390000	ug/kg	SW846 8270C
Percent Solids	84.7	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-320 04/12/05 13:14 011</b>				
Arsenic	552	1.2	mg/kg	SW846 6010B
Naphthalene	760000 E	77000	ug/kg	SW846 8270C
Naphthalene	800000	480000	ug/kg	SW846 8270C
Percent Solids	85.5	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-321 04/12/05 13:17 012</b>				
Arsenic	1280	1.3	mg/kg	SW846 6010B
Naphthalene	37000000	8600000	ug/kg	SW846 8270C
Percent Solids	76.3	10.0	%	MCAWW 160.3 MOD
<b>S-041205-PP-077 04/12/05 13:42 013</b>				
o-Cresol	0.12	0.10	mg/L	SW846 8270C
Benzene	0.43	0.025	mg/L	SW846 8260B
<b>S-041205-PP-079 04/12/05 13:50 014</b>				
Benzene	0.037	0.025	mg/L	SW846 8260B

# ANALYTICAL METHODS SUMMARY

A5D130157

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B
Volatile Organics by GC/MS	SW846 8260B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5D130157

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G786L	001	S-041205-PP-310	04/12/05	12:46
G786M	002	S-041205-PP-311	04/12/05	12:51
G786P	003	S-041205-PP-312	04/12/05	12:53
G786Q	004	S-041205-PP-313	04/12/05	12:55
G786R	005	S-041205-PP-314	04/12/05	13:02
G786V	006	S-041205-PP-315	04/12/05	13:03
G786W	007	S-041205-PP-316	04/12/05	13:05
G7862	008	S-041205-PP-317	04/12/05	13:07
G7864	009	S-041205-PP-318	04/12/05	13:09
G7867	010	S-041205-PP-319	04/12/05	13:12
G7868	011	S-041205-PP-320	04/12/05	13:14
G7869	012	S-041205-PP-321	04/12/05	13:17
G787A	013	S-041205-PP-077	04/12/05	13:42
G787D	014	S-041205-PP-079	04/12/05	13:50
G787G	015	W-041205-PP-511	04/12/05	13:30

## **NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-310

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-001    Work Order #...: G786L1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 12:46    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 20  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	7800	ug/kg
Benzo(a)pyrene	ND	7800	ug/kg
Dibenz(a,h)anthracene	ND	7800	ug/kg
Dibenzofuran	ND	7800	ug/kg
Indeno(1,2,3-cd)pyrene	ND	7800	ug/kg
4-Methylphenol	ND	7800	ug/kg
<b>Naphthalene</b>	<b>14000</b>	<b>7800</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	7800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80 DIL	(42 - 110)
2-Fluorobiphenyl	73 DIL	(43 - 110)
Terphenyl-d14	78 DIL	(37 - 137)
Phenol-d5	59 DIL	(25 - 115)
2-Fluorophenol	48 DIL	(11 - 116)
2,4,6-Tribromophenol	45 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-310

TOTAL Metals

Lot-Sample #...: A5D130157-001

Matrix.....: SO

Date Sampled...: 04/12/05 12:46 Date Received...: 04/13/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	116	1.2	mg/kg	SW846 6010B	04/14/05	G786L1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-310

General Chemistry

Lot-Sample #...: A5D130157-001    Work Order #...: G786L    Matrix.....: SO  
Date Sampled...: 04/12/05 12:46    Date Received..: 04/13/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-311

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-002    Work Order #...: G786M1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 12:51    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 5000  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1900000	ug/kg
Benzo(a)pyrene	ND	1900000	ug/kg
Dibenz(a,h)anthracene	ND	1900000	ug/kg
Dibenzofuran	ND	1900000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1900000	ug/kg
4-Methylphenol	ND	1900000	ug/kg
<b>Naphthalene</b>	<b>5000000</b>	<b>1900000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	1900000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-311

TOTAL Metals

Lot-Sample #...: A5D130157-002

Matrix.....: SO

Date Sampled...: 04/12/05 12:51 Date Received...: 04/13/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	39.6	1.2	mg/kg	SW846 6010B	04/14/05	G786M1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-311

General Chemistry

Lot-Sample #...: A5D130157-002    Work Order #...: G786M    Matrix.....: SO  
Date Sampled...: 04/12/05 12:51    Date Received..: 04/13/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.1	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-312

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-003    Work Order #...: G786P1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 12:53    Date Received..: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date..: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 200  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	75000	ug/kg
Benzo(a)pyrene	ND	75000	ug/kg
Dibenz(a,h)anthracene	ND	75000	ug/kg
Dibenzofuran	ND	75000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	75000	ug/kg
4-Methylphenol	ND	75000	ug/kg
<b>Naphthalene</b>	<b>1100000 E</b>	<b>75000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	75000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-312

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-003    Work Order #...: G786P2AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 12:53    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 2500  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	930000	ug/kg
Benzo(a)pyrene	ND	930000	ug/kg
Dibenz(a,h)anthracene	ND	930000	ug/kg
Dibenzofuran	ND	930000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	930000	ug/kg
4-Methylphenol	ND	930000	ug/kg
<b>Naphthalene</b>	<b>1300000</b>	<b>930000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	930000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-312

TOTAL Metals

Lot-Sample #...: A5D130157-003

Matrix.....: SO

Date Sampled...: 04/12/05 12:53 Date Received...: 04/13/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	183	1.1	mg/kg	SW846 6010B	04/14/05	G786P1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-312

General Chemistry

Lot-Sample #...: A5D130157-003    Work Order #...: G786P    Matrix.....: SO  
Date Sampled...: 04/12/05 12:53    Date Received..: 04/13/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.3	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-313

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-004    Work Order #...: G786Q1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 12:55    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 10  
 % Moisture.....: 22    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	4200	ug/kg
Benzo(a)pyrene	ND	4200	ug/kg
Dibenz(a,h)anthracene	ND	4200	ug/kg
Dibenzofuran	ND	4200	ug/kg
Indeno(1,2,3-cd)pyrene	ND	4200	ug/kg
4-Methylphenol	ND	4200	ug/kg
Naphthalene	ND	4200	ug/kg
Benzo(a)anthracene	ND	4200	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	60 DIL	(42 - 110)
2-Fluorobiphenyl	58 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	29 DIL	(25 - 115)
2-Fluorophenol	20 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-313

TOTAL Metals

Lot-Sample #...: A5D130157-004

Matrix.....: SO

Date Sampled...: 04/12/05 12:55 Date Received...: 04/13/05

% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	1730	6.4	mg/kg	SW846 6010B	04/14/05	G786Q1AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-313

General Chemistry

Lot-Sample #...: A5D130157-004    Work Order #...: G786Q    Matrix.....: SO  
Date Sampled...: 04/12/05 12:55    Date Received..: 04/13/05  
% Moisture.....: 22

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	77.7	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-314

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-005    Work Order #...: G786R1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:02    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 200  
 % Moisture.....: 12    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	ND	75000	ug/kg
Benzo(a)pyrene	ND	75000	ug/kg
Dibenz(a,h)anthracene	ND	75000	ug/kg
Dibenzofuran	ND	75000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	75000	ug/kg
4-Methylphenol	ND	75000	ug/kg
<b>Naphthalene</b>	<b>430000 E</b>	<b>75000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	75000	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-314

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-005    Work Order #...: G786R2AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:02    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 1000  
 % Moisture.....: 12    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	370000	ug/kg
Benzo(a)pyrene	ND	370000	ug/kg
Dibenz(a,h)anthracene	ND	370000	ug/kg
Dibenzofuran	ND	370000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370000	ug/kg
4-Methylphenol	ND	370000	ug/kg
<b>Naphthalene</b>	<b>450000</b>	<b>370000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	370000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-314

TOTAL Metals

Lot-Sample #...: A5D130157-005

Matrix.....: SO

Date Sampled...: 04/12/05 13:02 Date Received...: 04/13/05

% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	42.3	1.1	mg/kg	SW846 6010B	04/14/05	G786R1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-314

General Chemistry

Lot-Sample #...: A5D130157-005    Work Order #...: G786R    Matrix.....: SO  
Date Sampled...: 04/12/05 13:02    Date Received..: 04/13/05  
% Moisture.....: 12

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.2	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-315

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-006    Work Order #...: G786V1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:03    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 133.33  
 % Moisture.....: 13    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	51000	ug/kg
Benzo(a)pyrene	ND	51000	ug/kg
Dibenz(a,h)anthracene	ND	51000	ug/kg
Dibenzofuran	ND	51000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	51000	ug/kg
4-Methylphenol	ND	51000	ug/kg
<b>Naphthalene</b>	<b>240000</b>	<b>51000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	51000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-315

TOTAL Metals

Lot-Sample #...: A5D130157-006

Matrix.....: SO

Date Sampled...: 04/12/05 13:03 Date Received...: 04/13/05

% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	28.1	1.1	mg/kg	SW846 6010B	04/14/05	G786V1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-315

General Chemistry

Lot-Sample #...: A5D130157-006    Work Order #...: G786V    Matrix.....: SO  
Date Sampled...: 04/12/05 13:03    Date Received..: 04/13/05  
% Moisture.....: 13

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	87.1	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-316

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-007    Work Order #...: G786W1AF    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:05    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 10  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	13000	3800	ug/kg
Benzo(a)pyrene	11000	3800	ug/kg
Dibenz(a,h)anthracene	ND	3800	ug/kg
Dibenzofuran	ND	3800	ug/kg
Indeno(1,2,3-cd)pyrene	4800	3800	ug/kg
4-Methylphenol	ND	3800	ug/kg
Naphthalene	ND	3800	ug/kg
Benzo(a)anthracene	10000	3800	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	88 DIL	(42 - 110)
2-Fluorobiphenyl	80 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	73 DIL	(25 - 115)
2-Fluorophenol	67 DIL	(11 - 116)
2,4,6-Tribromophenol	48 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-316

TOTAL Metals

Lot-Sample #...: A5D130157-007

Matrix.....: SO

Date Sampled...: 04/12/05 13:05 Date Received...: 04/13/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	8.3	1.2	mg/kg	SW846 6010B	04/14/05	G786W1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-316

General Chemistry

Lot-Sample #...: A5D130157-007    Work Order #...: G786W    Matrix.....: SO  
Date Sampled...: 04/12/05 13:05    Date Received..: 04/13/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.2	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-317

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-008    Work Order #...: G78621AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:07    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 10  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	3700	ug/kg
Benzo(a)pyrene	ND	3700	ug/kg
Dibenz(a,h)anthracene	ND	3700	ug/kg
Dibenzofuran	ND	3700	ug/kg
Indeno(1,2,3-cd)pyrene	ND	3700	ug/kg
4-Methylphenol	ND	3700	ug/kg
Naphthalene	ND	3700	ug/kg
Benzo(a)anthracene	ND	3700	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	87 DIL	(42 - 110)
2-Fluorobiphenyl	82 DIL	(43 - 110)
Terphenyl-d14	91 DIL	(37 - 137)
Phenol-d5	77 DIL	(25 - 115)
2-Fluorophenol	79 DIL	(11 - 116)
2,4,6-Tribromophenol	45 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-317

TOTAL Metals

Lot-Sample #...: A5D130157-008

Matrix.....: SO

Date Sampled...: 04/12/05 13:07 Date Received...: 04/13/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	12.0	1.1	mg/kg	SW846 6010B	04/14/05	G78621AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-317

General Chemistry

Lot-Sample #...: A5D130157-008    Work Order #...: G7862    Matrix.....: SO  
Date Sampled...: 04/12/05 13:07    Date Received...: 04/13/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-318

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-009    Work Order #...: G78641AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:09    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 6.66  
 % Moisture.....: 16    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	2600	ug/kg
Benzo(a)pyrene	ND	2600	ug/kg
Dibenz(a,h)anthracene	ND	2600	ug/kg
Dibenzofuran	ND	2600	ug/kg
Indeno(1,2,3-cd)pyrene	ND	2600	ug/kg
4-Methylphenol	ND	2600	ug/kg
<b>Naphthalene</b>	<b>10000</b>	<b>2600</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	2600	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	69 DIL	(42 - 110)
2-Fluorobiphenyl	69 DIL	(43 - 110)
Terphenyl-d14	123 DIL	(37 - 137)
Phenol-d5	66 DIL	(25 - 115)
2-Fluorophenol	58 DIL	(11 - 116)
2,4,6-Tribromophenol	50 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-318

TOTAL Metals

Lot-Sample #...: A5D130157-009

Matrix.....: SO

Date Sampled...: 04/12/05 13:09 Date Received...: 04/13/05

% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	145	1.2	mg/kg	SW846 6010B	04/14/05	G78641AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-318

General Chemistry

Lot-Sample #...: A5D130157-009    Work Order #...: G7864    Matrix.....: SO  
Date Sampled...: 04/12/05 13:09    Date Received..: 04/13/05  
% Moisture.....: 16

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.5	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-319

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-010    Work Order #...: G78671AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:12    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 200  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	78000	ug/kg
Benzo(a)pyrene	ND	78000	ug/kg
Dibenz(a,h)anthracene	ND	78000	ug/kg
Dibenzofuran	ND	78000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	78000	ug/kg
4-Methylphenol	ND	78000	ug/kg
<b>Naphthalene</b>	<b>650000 E</b>	<b>78000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	78000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-319

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-010    Work Order #...: G78672AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:12    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 1000  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	390000	ug/kg
Benzo(a)pyrene	ND	390000	ug/kg
Dibenz(a,h)anthracene	ND	390000	ug/kg
Dibenzofuran	ND	390000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390000	ug/kg
4-Methylphenol	ND	390000	ug/kg
<b>Naphthalene</b>	<b>710000</b>	<b>390000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	390000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-319

TOTAL Metals

Lot-Sample #...: A5D130157-010

Matrix.....: SO

Date Sampled...: 04/12/05 13:12 Date Received...: 04/13/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	554	1.2	mg/kg	SW846 6010B	04/14/05	G78671AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-319

General Chemistry

Lot-Sample #...: A5D130157-010    Work Order #...: G7867    Matrix.....: SO  
Date Sampled...: 04/12/05 13:12    Date Received..: 04/13/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.7	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-320

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-011    Work Order #...: G78681AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:14    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 200  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	77000	ug/kg
Benzo(a)pyrene	ND	77000	ug/kg
Dibenz(a,h)anthracene	ND	77000	ug/kg
Dibenzofuran	ND	77000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	77000	ug/kg
4-Methylphenol	ND	77000	ug/kg
<b>Naphthalene</b>	<b>760000 E</b>	<b>77000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	77000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-320

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-011    Work Order #...: G78682AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:14    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 1250  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	480000	ug/kg
Benzo(a)pyrene	ND	480000	ug/kg
Dibenz(a,h)anthracene	ND	480000	ug/kg
Dibenzofuran	ND	480000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	480000	ug/kg
4-Methylphenol	ND	480000	ug/kg
<b>Naphthalene</b>	<b>800000</b>	<b>480000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	480000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-320

TOTAL Metals

Lot-Sample #...: A5D130157-011

Matrix.....: SO

Date Sampled...: 04/12/05 13:14 Date Received...: 04/13/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	552	1.2	mg/kg	SW846 6010B	04/14/05	G78681AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-320

General Chemistry

Lot-Sample #...: A5D130157-011    Work Order #...: G7868    Matrix.....: SO  
Date Sampled...: 04/12/05 13:14    Date Received..: 04/13/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	85.5	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-321

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-012    Work Order #...: G78691AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:17    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/19/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 20000  
 % Moisture.....: 24    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	8600000	ug/kg
Benzo(a)pyrene	ND	8600000	ug/kg
Dibenz(a,h)anthracene	ND	8600000	ug/kg
Dibenzofuran	ND	8600000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	8600000	ug/kg
4-Methylphenol	ND	8600000	ug/kg
<b>Naphthalene</b>	<b>37000000</b>	<b>8600000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	8600000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-321

TOTAL Metals

Lot-Sample #...: A5D130157-012

Matrix.....: SO

Date Sampled...: 04/12/05 13:17 Date Received...: 04/13/05

% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5104029

Arsenic	1280	1.3	mg/kg	SW846 6010B	04/14/05	G78691AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-321

General Chemistry

Lot-Sample #...: A5D130157-012    Work Order #...: G7869    Matrix.....: SO  
Date Sampled...: 04/12/05 13:17    Date Received..: 04/13/05  
% Moisture.....: 24

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	76.3	10.0	%	MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-077

TCLP GC/MS Volatiles

Lot-Sample #...: A5D130157-013    Work Order #...: G787A1AA    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:42    Date Received...: 04/13/05  
 Leach Date.....: 04/14/05    Prep Date.....: 04/17/05    Analysis Date...: 04/17/05  
 Leach Batch #..: P510411    Prep Batch #...: 5107063  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzene</b>	<b>0.43</b>	<b>0.025</b>	<b>mg/L</b>
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	108	(86 - 125)
1,2-Dichloroethane-d4	88	(80 - 122)
Toluene-d8	104	(90 - 122)
4-Bromofluorobenzene	90	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-077

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5D130157-013    Work Order #...: G787A1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:42    Date Received...: 04/13/05  
 Leach Date.....: 04/14/05    Prep Date.....: 04/15/05    Analysis Date...: 04/18/05  
 Leach Batch #...: P510408    Prep Batch #...: 5105063  
 Dilution Factor: 2  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
<b>o-Cresol</b>	<b>0.12</b>	<b>0.10</b>	<b>mg/L</b>
m-Cresol & p-Cresol	ND	0.20	mg/L
1,4-Dichlorobenzene	ND	0.10	mg/L
2,4-Dinitrotoluene	ND	0.10	mg/L
Hexachlorobenzene	ND	0.10	mg/L
Hexachlorobutadiene	ND	0.10	mg/L
Hexachloroethane	ND	0.10	mg/L
Nitrobenzene	ND	0.10	mg/L
Pentachlorophenol	ND	0.20	mg/L
Pyridine	ND	0.20	mg/L
2,4,5-Trichloro-phenol	ND	0.50	mg/L
2,4,6-Trichloro-phenol	ND	0.10	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	97 DIL	(32 - 112)
2-Fluorobiphenyl	64 DIL	(30 - 110)
Terphenyl-d14	75 DIL	(10 - 144)
Phenol-d5	24 DIL	(10 - 113)
2-Fluorophenol	9.0 DIL, *	(13 - 110)
2,4,6-Tribromophenol	30 DIL	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-077

TCLP Metals

Lot-Sample #...: A5D130157-013

Matrix.....: SO

Date Sampled...: 04/12/05 13:42 Date Received...: 04/13/05

Leach Date.....: 04/14/05 Leach Batch #...: P510408

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5108019						
Arsenic	ND	0.50	mg/L	SW846 6010B	04/18/05	G787A1AE
		Dilution Factor: 1				

**NOTE(S):**

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Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-079

TCLP GC/MS Volatiles

Lot-Sample #...: A5D130157-014    Work Order #...: G787D1AA    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:50    Date Received..: 04/13/05  
 Leach Date.....: 04/14/05    Prep Date.....: 04/17/05    Analysis Date..: 04/17/05  
 Leach Batch #..: P510411    Prep Batch #...: 5107063  
 Dilution Factor: 1  
 % Moisture.....:    Method.....: SW846 8260B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
<b>Benzene</b>	<b>0.037</b>	<b>0.025</b>	<b>mg/L</b>
Carbon tetrachloride	ND	0.025	mg/L
Chlorobenzene	ND	0.025	mg/L
Chloroform	ND	0.025	mg/L
1,2-Dichloroethane	ND	0.025	mg/L
1,1-Dichloroethylene	ND	0.070	mg/L
Methyl ethyl ketone	ND	0.050	mg/L
Tetrachloroethylene	ND	0.070	mg/L
Trichloroethylene	ND	0.050	mg/L
Vinyl chloride	ND	0.025	mg/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	105	(86 - 125)
1,2-Dichloroethane-d4	83	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	88	(84 - 125)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-079

TCLP GC/MS Semivolatiles

Lot-Sample #...: A5D130157-014    Work Order #...: G787D1AD    Matrix.....: SO  
 Date Sampled...: 04/12/05 13:50    Date Received..: 04/13/05  
 Leach Date.....: 04/14/05    Prep Date.....: 04/15/05    Analysis Date..: 04/18/05  
 Leach Batch #..: P510408    Prep Batch #...: 5105063  
 Dilution Factor: 2  
 % Moisture.....:    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
o-Cresol	ND	0.10	mg/L
m-Cresol & p-Cresol	ND	0.20	mg/L
1,4-Dichlorobenzene	ND	0.10	mg/L
2,4-Dinitrotoluene	ND	0.10	mg/L
Hexachlorobenzene	ND	0.10	mg/L
Hexachlorobutadiene	ND	0.10	mg/L
Hexachloroethane	ND	0.10	mg/L
Nitrobenzene	ND	0.10	mg/L
Pentachlorophenol	ND	0.20	mg/L
Pyridine	ND	0.20	mg/L
2,4,5-Trichloro-phenol	ND	0.50	mg/L
2,4,6-Trichloro-phenol	ND	0.10	mg/L

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	85 DIL	(32 - 112)
2-Fluorobiphenyl	60 DIL	(30 - 110)
Terphenyl-d14	72 DIL	(10 - 144)
Phenol-d5	30 DIL	(10 - 113)
2-Fluorophenol	6.8 DIL, *	(13 - 110)
2,4,6-Tribromophenol	14 DIL, *	(21 - 122)

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-041205-PP-079

TCLP Metals

Lot-Sample #...: A5D130157-014

Matrix.....: SO

Date Sampled...: 04/12/05 13:50 Date Received...: 04/13/05

Leach Date.....: 04/14/05 Leach Batch #...: P510408

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5108019						
Arsenic	ND	0.50	mg/L	SW846 6010B	04/18/05	G787D1AE
		Dilution Factor: 1				

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-041205-PP-511

GC/MS Semivolatiles

Lot-Sample #...: A5D130157-015    Work Order #...: G787G1AC    Matrix.....: WG  
 Date Sampled...: 04/12/05 13:30    Date Received...: 04/13/05  
 Prep Date.....: 04/13/05    Analysis Date...: 04/15/05  
 Prep Batch #...: 5103336  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	70	( 32 - 112)
2-Fluorobiphenyl	59	( 30 - 110)
Terphenyl-d14	87	( 10 - 144)
Phenol-d5	64	( 10 - 113)
2-Fluorophenol	62	( 13 - 110)
2,4,6-Tribromophenol	70	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-041205-PP-511

TOTAL Metals

Lot-Sample #...: A5D130157-015

Matrix.....: WG

Date Sampled...: 04/12/05 13:30 Date Received...: 04/13/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5104024						
Arsenic	ND	0.010	mg/L	SW846 6010B	04/14-04/15/05	G787G1AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5D130157      Work Order #...: G8D461AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5D140000-372  
 Leach Date.....: 04/14/05      Prep Date.....: 04/17/05      Analysis Date..: 04/17/05  
 Leach Batch #..: P510411      Prep Batch #...: 5107063  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzene	ND	0.025	mg/L	SW846 8260B
Carbon tetrachloride	ND	0.025	mg/L	SW846 8260B
Chlorobenzene	ND	0.025	mg/L	SW846 8260B
Chloroform	ND	0.025	mg/L	SW846 8260B
1,2-Dichloroethane	ND	0.025	mg/L	SW846 8260B
1,1-Dichloroethylene	ND	0.070	mg/L	SW846 8260B
Methyl ethyl ketone	ND	0.050	mg/L	SW846 8260B
Tetrachloroethylene	ND	0.070	mg/L	SW846 8260B
Trichloroethylene	ND	0.050	mg/L	SW846 8260B
Vinyl chloride	ND	0.025	mg/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	109	(86 - 125)
1,2-Dichloroethane-d4	86	(80 - 122)
Toluene-d8	101	(90 - 122)
4-Bromofluorobenzene	86	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157  
MB Lot-Sample #: A5D130000-256

Work Order #...: G79AA1AA

Matrix.....: SOLID

Prep Date.....: 04/13/05

Analysis Date..: 04/15/05

Prep Batch #...: 5103256

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	86	( 42 - 110)
2-Fluorobiphenyl	81	( 43 - 110)
Terphenyl-d14	93	( 37 - 137)
Phenol-d5	84	( 25 - 115)
2-Fluorophenol	81	( 11 - 116)
2,4,6-Tribromophenol	71	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157  
MB Lot-Sample #: A5D130000-336

Work Order #...: G79P41AA

Matrix.....: WATER

Prep Date.....: 04/13/05

Analysis Date..: 04/15/05

Prep Batch #...: 5103336

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	80	( 32 - 112)
2-Fluorobiphenyl	68	( 30 - 110)
Terphenyl-d14	95	( 10 - 144)
Phenol-d5	71	( 10 - 113)
2-Fluorophenol	67	( 13 - 110)
2,4,6-Tribromophenol	74	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G8E8R1AA      Matrix.....: SOLID  
 MB Lot-Sample #: A5D150000-063  
 Leach Date.....: 04/14/05      Prep Date.....: 04/15/05      Analysis Date...: 04/18/05  
 Leach Batch #...: P510408      Prep Batch #...: 5105063  
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
o-Cresol	ND	0.050	mg/L	SW846 8270C
m-Cresol & p-Cresol	ND	0.10	mg/L	SW846 8270C
1,4-Dichlorobenzene	ND	0.050	mg/L	SW846 8270C
2,4-Dinitrotoluene	ND	0.050	mg/L	SW846 8270C
Hexachlorobenzene	ND	0.050	mg/L	SW846 8270C
Hexachlorobutadiene	ND	0.050	mg/L	SW846 8270C
Hexachloroethane	ND	0.050	mg/L	SW846 8270C
Nitrobenzene	ND	0.050	mg/L	SW846 8270C
Pentachlorophenol	ND	0.10	mg/L	SW846 8270C
Pyridine	ND	0.10	mg/L	SW846 8270C
2,4,5-Trichloro-phenol	ND	0.25	mg/L	SW846 8270C
2,4,6-Trichloro-phenol	ND	0.050	mg/L	SW846 8270C

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	84	( 32 - 112)
2-Fluorobiphenyl	72	( 30 - 110)
Terphenyl-d14	90	( 10 - 144)
Phenol-d5	60	( 10 - 113)
2-Fluorophenol	65	( 13 - 110)
2,4,6-Tribromophenol	83	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D140000-024		<b>Prep Batch #...</b> : 5104024				
Arsenic	ND	0.010	mg/L	SW846 6010B	04/14-04/15/05	G8A171AV
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D140000-029		<b>Prep Batch #...</b> : 5104029				
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/14/05	G8A2F1AA
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
<b>MB Lot-Sample #:</b>	A5D140000-362	<b>Prep Batch #...:</b>	5108019			
<b>Leach Date.....:</b>	04/14/05	<b>Leach Batch #...:</b>	P510408			
Arsenic	ND	0.50	mg/L	SW846 6010B	04/18/05	G8D391AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5D180000-019		<b>Prep Batch #...</b> : 5108019				
Arsenic	ND	0.50	mg/L	SW846 6010B	04/18/05	G8KCP1AU
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: G791H1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5D130000-397 04/13-04/14/05	5103397
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A5D130157      Work Order #...: G8KAP1AA      Matrix.....: SOLID  
 LCS Lot-Sample#: A5D170000-063  
 Prep Date.....: 04/17/05      Analysis Date...: 04/17/05  
 Prep Batch #...: 5107063  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
Benzene	91	(76 - 118)	SW846 8260B
Chlorobenzene	108	(76 - 113)	SW846 8260B
1,1-Dichloroethylene	79	(67 - 128)	SW846 8260B
Trichloroethylene	115	(76 - 119)	SW846 8260B
Toluene	102	(72 - 117)	SW846 8260B

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Dibromofluoromethane	102	(86 - 124)
1,2-Dichloroethane-d4	87	(80 - 122)
Toluene-d8	100	(90 - 122)
4-Bromofluorobenzene	87	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G79AA1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5D130000-256  
 Prep Date.....: 04/13/05      Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	77	(45 - 110)	SW846 8270C
Acenaphthene	81	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	79	(48 - 111)	SW846 8270C
Pyrene	97	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	93	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	91	(38 - 110)	SW846 8270C
Pentachlorophenol	46	(10 - 123)	SW846 8270C
Phenol	78	(35 - 110)	SW846 8270C
2-Chlorophenol	78	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	78	(43 - 110)	SW846 8270C
4-Nitrophenol	69	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	93	(42 - 110)
2-Fluorobiphenyl	84	(43 - 110)
Terphenyl-d14	98	(37 - 137)
Phenol-d5	88	(25 - 115)
2-Fluorophenol	88	(11 - 116)
2,4,6-Tribromophenol	77	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G79P41AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5D130000-336  
 Prep Date.....: 04/13/05      Analysis Date...: 04/15/05  
 Prep Batch #...: 5103336  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	67	(31 - 110)	SW846 8270C
Acenaphthene	81	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	84	(47 - 131)	SW846 8270C
Pyrene	83	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl- amine	97	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	74	(28 - 110)	SW846 8270C
Pentachlorophenol	72	(10 - 140)	SW846 8270C
Phenol	76	(10 - 131)	SW846 8270C
2-Chlorophenol	72	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	74	(29 - 124)	SW846 8270C
4-Nitrophenol	79	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	81	(32 - 112)
2-Fluorobiphenyl	71	(30 - 110)
Terphenyl-d14	85	(10 - 144)
Phenol-d5	72	(10 - 113)
2-Fluorophenol	69	(13 - 110)
2,4,6-Tribromophenol	78	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G8E8R1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: A5D150000-063      G8E8R1AD-LCSD  
 Prep Date.....: 04/15/05      Analysis Date...: 04/18/05  
 Prep Batch #...: 5105063  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT	RECOVERY	RPD		<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>	<u>LIMITS</u>	
o-Cresol	78	(33 - 115)			SW846 8270C
	81	(33 - 115)	4.4	(0-31)	SW846 8270C
m-Cresol & p-Cresol	73	(46 - 109)			SW846 8270C
	76	(46 - 109)	4.2	(0-32)	SW846 8270C
1,4-Dichlorobenzene	86	(28 - 110)			SW846 8270C
	87	(28 - 110)	0.71	(0-36)	SW846 8270C
2,4-Dinitrotoluene	98	(47 - 131)			SW846 8270C
	100	(47 - 131)	2.4	(0-32)	SW846 8270C
Hexachlorobenzene	90	(57 - 128)			SW846 8270C
	92	(57 - 128)	2.6	(0-22)	SW846 8270C
Hexachlorobutadiene	78	(36 - 116)			SW846 8270C
	79	(36 - 116)	1.1	(0-32)	SW846 8270C
Hexachloroethane	82	(30 - 110)			SW846 8270C
	83	(30 - 110)	1.1	(0-33)	SW846 8270C
Nitrobenzene	90	(45 - 130)			SW846 8270C
	91	(45 - 130)	1.3	(0-50)	SW846 8270C
Pentachlorophenol	80	(10 - 140)			SW846 8270C
	84	(10 - 140)	4.3	(0-56)	SW846 8270C
Pyridine	92	(10 - 148)			SW846 8270C
	95	(10 - 148)	3.0	(0-65)	SW846 8270C
2,4,5-Trichloro-phenol	88	(41 - 125)			SW846 8270C
	94	(41 - 125)	5.9	(0-22)	SW846 8270C
2,4,6-Trichloro-phenol	83	(46 - 135)			SW846 8270C
	86	(46 - 135)	3.1	(0-27)	SW846 8270C
Cresols (total)	75	(46 - 109)			SW846 8270C
	78	(46 - 109)	4.2	(0-32)	SW846 8270C

<u>SURROGATE</u>	PERCENT	RECOVERY
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	85	(32 - 112)
	85	(32 - 112)
2-Fluorobiphenyl	77	(30 - 110)
	79	(30 - 110)
Terphenyl-d14	96	(10 - 144)
	98	(10 - 144)
Phenol-d5	62	(10 - 113)

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G8E8R1AC-LCS      Matrix.....: SOLID  
LCS Lot-Sample#: A5D150000-063      G8E8R1AD-LCSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
	65	(10 - 113)
2-Fluorophenol	70	(13 - 110)
	71	(13 - 110)
2,4,6-Tribromophenol	88	(21 - 122)
	93	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5D140000-024 Prep Batch #...: 5104024

Arsenic 92 (80 - 120) SW846 6010B 04/14-04/15/05 G8A171A7

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5D140000-029	Prep Batch #...:	5104029		
Arsenic	89	(80 - 120)	SW846 6010B	04/14/05	G8A2F1AC
		Dilution Factor:	1		

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	A5D180000-019	Prep Batch #...:	5108019		
Arsenic	100	(50 - 150)	SW846 6010B	04/18/05	G8KCP1AV
		Dilution Factor:	1		

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP GC/MS Volatiles

Client Lot #...: A5D130157      Work Order #...: G787A1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5D130157-013      G787A1AH-MSD  
 Date Sampled...: 04/12/05 13:42      Date Received...: 04/13/05  
 Leach Date.....: 04/14/05      Prep Date.....: 04/17/05      Analysis Date...: 04/17/05  
 Leach Batch #...: P510411      Prep Batch #...: 5107063  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	86	(76 - 117)			SW846 8260B
	89	(76 - 117)	1.1	(0-30)	SW846 8260B
Chlorobenzene	106	(72 - 114)			SW846 8260B
	104	(72 - 114)	2.6	(0-30)	SW846 8260B
1,1-Dichloroethylene	80	(67 - 129)			SW846 8260B
	79	(67 - 129)	0.16	(0-30)	SW846 8260B
Trichloroethylene	113	(72 - 121)			SW846 8260B
	108	(72 - 121)	4.3	(0-30)	SW846 8260B
Toluene	98	(67 - 113)			SW846 8260B
	96	(67 - 113)	0.58	(0-30)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	106	(86 - 125)
	103	(86 - 125)
1,2-Dichloroethane-d4	89	(80 - 122)
	85	(80 - 122)
Toluene-d8	102	(90 - 122)
	100	(90 - 122)
4-Bromofluorobenzene	89	(84 - 125)
	89	(84 - 125)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G786W1AG-MS      Matrix.....: SO  
 MS Lot-Sample #: A5D130157-007      G786W1AH-MSD  
 Date Sampled...: 04/12/05 13:05      Date Received...: 04/13/05  
 Prep Date.....: 04/13/05      Analysis Date...: 04/15/05  
 Prep Batch #...: 5103256  
 Dilution Factor: 10

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	69 DIL	(16 - 121)			SW846 8270C
	82 DIL	(16 - 121)	17	(0-54)	SW846 8270C
Acenaphthene	66 DIL	(13 - 133)			SW846 8270C
	115 DIL	(13 - 133)	26	(0-44)	SW846 8270C
2,4-Dinitrotoluene	105 DIL	(10 - 171)			SW846 8270C
	95 DIL	(10 - 171)	9.4	(0-45)	SW846 8270C
Pyrene	634 DIL,a	(10 - 218)			SW846 8270C
	0.0 DIL,a	(10 - 218)	0.0	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	85 DIL	(12 - 128)			SW846 8270C
	95 DIL	(12 - 128)	11	(0-50)	SW846 8270C
1,4-Dichlorobenzene	81 DIL	(18 - 110)			SW846 8270C
	92 DIL	(18 - 110)	12	(0-59)	SW846 8270C
Pentachlorophenol	0.0 DIL,a	(10 - 144)			SW846 8270C
	0.0 DIL,a	(10 - 144)	0.0	(0-87)	SW846 8270C
Phenol	66 DIL	(10 - 148)			SW846 8270C
	82 DIL	(10 - 148)	21	(0-50)	SW846 8270C
2-Chlorophenol	63 DIL	(17 - 116)			SW846 8270C
	81 DIL	(17 - 116)	25	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	55 DIL	(17 - 128)			SW846 8270C
	74 DIL	(17 - 128)	29	(0-55)	SW846 8270C
4-Nitrophenol	0.0 DIL,a	(10 - 148)			SW846 8270C
	0.0 DIL,a	(10 - 148)	0.0	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	76 DIL	(42 - 110)
	97 DIL	(42 - 110)
2-Fluorobiphenyl	67 DIL	(43 - 110)
	94 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
	94 DIL	(37 - 137)
Phenol-d5	69 DIL	(25 - 115)
	89 DIL	(25 - 115)
2-Fluorophenol	59 DIL	(11 - 116)
	76 DIL	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5D130157      Work Order #...: G786W1AG-MS      Matrix.....: SO  
MS Lot-Sample #: A5D130157-007      G786W1AH-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	39 DIL	(35 - 116)
	52 DIL	(35 - 116)

**NOTE(S):**

- 
- Calculations are performed before rounding to avoid round-off errors in calculated results.  
Bold print denotes control parameters  
DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
Results and reporting limits have been adjusted for dry weight.  
a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: WATER

Date Sampled...: 04/11/05 10:45 Date Received...: 04/13/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D130262-001 Prep Batch #...: 5104024

Arsenic	100	(75 - 125)			SW846 6010B	04/14-04/15/05	G79091C2
	105	(75 - 125)	4.3	(0-20)	SW846 6010B	04/14-04/15/05	G79091C3

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5D130157

Matrix.....: SO

Date Sampled...: 04/12/05 13:05 Date Received...: 04/13/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D130157-007 Prep Batch #...: 5104029

Arsenic	87	(75 - 125)			SW846 6010B	04/14/05	G786W1AD
	90	(75 - 125)	3.2	(0-20)	SW846 6010B	04/14/05	G786W1AE

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: A5D130157

Matrix.....: SOLID

Date Sampled...: 04/13/05 14:16 Date Received...: 04/14/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5D140198-001 Prep Batch #...: 5108019

Leach Date.....: 04/14/05 Leach Batch #...: P510408

Arsenic	104	(50 - 150)			SW846 6010B	04/18/05	G8C2X1CD
	108	(50 - 150)	3.6	(0-20)	SW846 6010B	04/18/05	G8C2X1CE

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5D130157

Work Order #...: G78RD-SMP  
G78RD-DUP

Matrix.....: SOLID

Date Sampled...: 04/12/05 09:00 Date Received...: 04/13/05

% Moisture.....: 22

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>		<u>RPD</u>	<u>LIMIT</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	78.0	77.6	%	0.57	(0-20)	SD Lot-Sample #: A5D130126-001 MCAWW 160.3 MOD	04/13-04/14/05	5103397

Dilution Factor: 1





**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019023-84

PROJECT NAME:

Waukegan MCP Cde Site

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Ritesh Pathak*

PARAMETERS: *Total Alkali, Site Spgs, VEGs, TWP Spgs, TWP Alkali*

REMARKS

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS
	4/12/05	12:46	S-041205-PP-	Soil	1	X
	4/12/05	12:51	S-041205-PP-	Soil	1	X
	4/12/05	12:53	S-041205-PP-	Soil	1	X
	4/12/05	12:55	S-041205-PP-	Soil	1	X
	4/12/05	13:02	S-041205-PP-	Soil	1	X
	4/12/05	13:03	S-041205-PP-	Soil	1	X
	4/12/05	13:04	S-041205-PP-	Soil	2	X
	4/12/05	13:07	S-041205-PP-	Soil	1	X
	4/12/05	13:09	S-041205-PP-	Soil	1	X
	4/12/05	13:12	S-041205-PP-	Soil	1	X
	4/12/05	13:14	S-041205-PP-	Soil	1	X
	4/12/05	13:17	S-041205-PP-	Soil	1	X
	4/12/05	13:21	S-041205-PP-	Soil	1	X
	4/12/05	13:24	S-041205-PP-	Soil	1	X
	4/12/05	13:27	S-041205-PP-	Soil	2	X
	4/12/05	13:30	S-041205-PP-	Soil	3	X
	4/12/05	13:30	W-041205-PP-	WATER	3	X
TOTAL NUMBER OF CONTAINERS					30	2 Wk TAT

RELINQUISHED BY: *[Signature]* DATE: 4-12-05 RECEIVED BY: *[Signature]* DATE: \_\_\_\_\_  
 TIME: 15:00 RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

METHOD OF SHIPMENT: *FEDEX* AIR BILL No. *8490 1342 7066*

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: *P. PA THAKK*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 4-13-05 TIME: 9:05

**STL Cooler Receipt Form/Narrative**

Lot Number: ADD BUS 7

**North Canton Facility**

Client: CRA Project: \_\_\_\_\_ Quote#: \_\_\_\_\_  
 Cooler Received on: 4-13-05 Opened on: 4-13-05 by: Dianemites  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# 1796 Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
  2. Shipper's packing slip attached to this form? Yes  No  NA
  3. Did custody papers accompany the samples? Yes  No
  4. Did you sign the custody papers in the appropriate place? Yes  No
  5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
  6. Cooler temperature upon receipt 4.9 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
  8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
  9. Were samples at the correct pH? (record below/on back) Yes  No  NA
  10. Were correct bottles used for the tests indicated? Yes  No
  11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
  12. Sufficient quantity received to perform indicated analyses? Yes  No
- Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

√

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 101104HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

\_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
<u>S11</u>	<u>6.2</u>	<u>4-13-05</u>	<u>DM</u>



***END OF REPORT***

STL North Canton  
4101 Shuffel Drive NW  
North Canton, OH 44720

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## ANALYTICAL REPORT

PROJECT NO. 019023-84

WAUKEGAN MGP COKE SITE

Lot #: A5F040151

Dave Hendren

Conestoga-Rovers & Associates  
8615 W. Bryn Mawr  
Chicago, IL 60631

SEVERN TRENT LABORATORIES, INC.



Amy L. McCormick  
Project Manager

June 15, 2005

# CASE NARRATIVE

A5F040151

The following report contains the analytical results for eight solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023-84. The samples were received June 4, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on June 13 and 14, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 54.

## SUPPLEMENTAL QC INFORMATION

### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.6° C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

Result concentration exceeds the calibration range. Refer to the sample report pages for the affected compound(s) flagged with "E".

Two analyses were used to report sample S-060305-PP-406 due to high analyte concentrations.

Internal standard areas were outside acceptance limits for samples S-060305-PP-409 (1,4-Dichlorobenzene-d4 and Naphthalene-d8 out low) and S-060305-PP-411 (Chrysene-d12 and Perylene-d12 out high) due to matrix effects.

Samples S-060305-PP-408 and S-060305-PP-410 had elevated reporting limits due to matrix interferences.

Due to a laboratory preparation error, the method blank associated with batch 5156034 was spiked twice with surrogate solution. A mathematical calculation was performed to compensate for the error and the results have been adjusted accordingly.

The matrix spike/matrix spike duplicate associated with sample S-060305-PP-405, batch 5156033, supports samples in batch 5156034.

The matrix spike/matrix spike duplicate associated with batch 5156033 failed spike recovery criteria. The laboratory control sample and method blank associated with batch 5156034 were in control; therefore, no corrective action was necessary.

### **METALS**

Serial dilution of a sample in this lot indicates that physical and chemical interferences were present. Refer to the sample report pages for the affected analytes flagged with "E".

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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## EXECUTIVE SUMMARY - Detection Highlights

A5F040151

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
<b>S-060305-PP-405 06/03/05 12:50 001</b>				
Arsenic	59.7 E	1.1	mg/kg	SW846 6010B
Naphthalene	280000	93000	ug/kg	SW846 8270C
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-406 06/03/05 12:52 002</b>				
Arsenic	257	6.0	mg/kg	SW846 6010B
Naphthalene	1600000 E	200000	ug/kg	SW846 8270C
Naphthalene	870000	500000	ug/kg	SW846 8270C
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-407 06/03/05 12:57 003</b>				
Arsenic	22.4	5.6	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2000	930	ug/kg	SW846 8270C
Benzo(a)pyrene	1300	930	ug/kg	SW846 8270C
Naphthalene	1000	930	ug/kg	SW846 8270C
Benzo(a)anthracene	1800	930	ug/kg	SW846 8270C
Percent Solids	88.8	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-408 06/03/05 13:00 004</b>				
Arsenic	18.9	5.8	mg/kg	SW846 6010B
Percent Solids	86.4	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-409 06/03/05 13:02 005</b>				
Arsenic	2090	6.3	mg/kg	SW846 6010B
Naphthalene	2100	1000	ug/kg	SW846 8270C
Percent Solids	79.7	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-410 06/03/05 13:04 006</b>				
Arsenic	1920	5.9	mg/kg	SW846 6010B
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-411 06/03/05 12:55 007</b>				
Arsenic	540	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	9300	1900	ug/kg	SW846 8270C
Benzo(a)pyrene	7000	1900	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	2100	1900	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	5900	1900	ug/kg	SW846 8270C

(Continued on next page)

# EXECUTIVE SUMMARY - Detection Highlights

A5F040151

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-060305-PP-411 06/03/05 12:55 007</b>				
Naphthalene	3500	1900	ug/kg	SW846 8270C
Benzo(a)anthracene	2900	1900	ug/kg	SW846 8270C
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD
<b>S-060305-PP-412 06/03/05 12:59 008</b>				
Arsenic	50.3	5.9	mg/kg	SW846 6010B
Benzo(b)fluoranthene	730	390	ug/kg	SW846 8270C
Benzo(a)pyrene	420	390	ug/kg	SW846 8270C
Benzo(a)anthracene	510	390	ug/kg	SW846 8270C
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5F040151

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5F040151

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
HCX6X	001	S-060305-PP-405	06/03/05	12:50
HCX61	002	S-060305-PP-406	06/03/05	12:52
HCX62	003	S-060305-PP-407	06/03/05	12:57
HCX64	004	S-060305-PP-408	06/03/05	13:00
HCX65	005	S-060305-PP-409	06/03/05	13:02
HCX66	006	S-060305-PP-410	06/03/05	13:04
HCX67	007	S-060305-PP-411	06/03/05	12:55
HCX68	008	S-060305-PP-412	06/03/05	12:59

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-405

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-001    Work Order #...: HCX6X1AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:50    Date Received..: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date..: 06/08/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 250  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	93000	ug/kg
Benzo(a)pyrene	ND	93000	ug/kg
Dibenz(a,h)anthracene	ND	93000	ug/kg
Dibenzofuran	ND	93000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	93000	ug/kg
4-Methylphenol	ND	93000	ug/kg
<b>Naphthalene</b>	<b>280000</b>	<b>93000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	93000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-405

TOTAL Metals

Lot-Sample #...: A5F040151-001

Matrix.....: SO

Date Sampled...: 06/03/05 12:50 Date Received...: 06/04/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	59.7 E	1.1	mg/kg	SW846 6010B	06/06-06/09/05	HCX6X1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

E Matrix interference.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-405

General Chemistry

Lot-Sample #...: A5F040151-001    Work Order #...: HCX6X    Matrix.....: SO  
Date Sampled...: 06/03/05 12:50    Date Received..: 06/04/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.9	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158464

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-406

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-002    Work Order #...: HCX611AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:52    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/08/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 500  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	200000	ug/kg
Benzo(a)pyrene	ND	200000	ug/kg
Dibenz(a,h)anthracene	ND	200000	ug/kg
Dibenzofuran	ND	200000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	200000	ug/kg
4-Methylphenol	ND	200000	ug/kg
<b>Naphthalene</b>	<b>1600000 E</b>	<b>200000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	200000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

E Estimated result. Result concentration exceeds the calibration range.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-406

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-002    Work Order #...: HCX612AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:52    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/13/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 1250  
 % Moisture.....: 17    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	500000	ug/kg
Benzo(a)pyrene	ND	500000	ug/kg
Dibenz(a,h)anthracene	ND	500000	ug/kg
Dibenzofuran	ND	500000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	500000	ug/kg
4-Methylphenol	ND	500000	ug/kg
<b>Naphthalene</b>	<b>870000</b>	<b>500000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	500000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	0.0 DIL, *	(42 - 110)
2-Fluorobiphenyl	0.0 DIL, *	(43 - 110)
Terphenyl-d14	0.0 DIL, *	(37 - 137)
Phenol-d5	0.0 DIL, *	(25 - 115)
2-Fluorophenol	0.0 DIL, *	(11 - 116)
2,4,6-Tribromophenol	0.0 DIL, *	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

\* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-406

TOTAL Metals

Lot-Sample #...: A5F040151-002

Matrix.....: SO

Date Sampled...: 06/03/05 12:52 Date Received...: 06/04/05

% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	257	6.0	mg/kg	SW846 6010B	06/06-06/09/05	HCX611AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-406

General Chemistry

Lot-Sample #...: A5F040151-002    Work Order #...: HCX61    Matrix.....: SO  
Date Sampled...: 06/03/05 12:52    Date Received..: 06/04/05  
% Moisture.....: 17

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	83.3	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158464

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-407

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-003    Work Order #...: HCX621AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:57    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/10/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 2.5  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2000	930	ug/kg
Benzo(a)pyrene	1300	930	ug/kg
Dibenz(a,h)anthracene	ND	930	ug/kg
Dibenzofuran	ND	930	ug/kg
Indeno(1,2,3-cd)pyrene	ND	930	ug/kg
4-Methylphenol	ND	930	ug/kg
Naphthalene	1000	930	ug/kg
Benzo(a)anthracene	1800	930	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	64 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	70 DIL	(37 - 137)
Phenol-d5	62 DIL	(25 - 115)
2-Fluorophenol	63 DIL	(11 - 116)
2,4,6-Tribromophenol	60 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-407

TOTAL Metals

Lot-Sample #...: A5F040151-003

Matrix.....: SO

Date Sampled...: 06/03/05 12:57 Date Received...: 06/04/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	22.4	5.6	mg/kg	SW846 6010B	06/06-06/09/05	HCX621AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-407

General Chemistry

Lot-Sample #...: A5F040151-003    Work Order #...: HCX62    Matrix.....: SO  
Date Sampled...: 06/03/05 12:57    Date Received..: 06/04/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.8	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158464

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-408

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-004    Work Order #...: HCX641AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 13:00    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/13/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 4  
 % Moisture.....: 14    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1500	ug/kg
Benzo(a)pyrene	ND	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	ND	1500	ug/kg
Benzo(a)anthracene	ND	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	55 DIL	(42 - 110)
2-Fluorobiphenyl	57 DIL	(43 - 110)
Terphenyl-d14	74 DIL	(37 - 137)
Phenol-d5	51 DIL	(25 - 115)
2-Fluorophenol	60 DIL	(11 - 116)
2,4,6-Tribromophenol	62 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-408

TOTAL Metals

Lot-Sample #...: A5F040151-004

Matrix.....: SO

Date Sampled...: 06/03/05 13:00 Date Received...: 06/04/05

% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	18.9	5.8	mg/kg	SW846 6010B	06/06-06/09/05	HCX641AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-408

General Chemistry

Lot-Sample #...: A5F040151-004    Work Order #...: HCX64    Matrix.....: SO  
Date Sampled...: 06/03/05 13:00    Date Received..: 06/04/05  
% Moisture.....: 14

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	86.4	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-409

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-005    Work Order #...: HCX651AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 13:02    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/13/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 2.5  
 % Moisture.....: 20    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	1000	ug/kg
Benzo(a)pyrene	ND	1000	ug/kg
Dibenz(a,h)anthracene	ND	1000	ug/kg
Dibenzofuran	ND	1000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1000	ug/kg
4-Methylphenol	ND	1000	ug/kg
<b>Naphthalene</b>	<b>2100</b>	<b>1000</b>	<b>ug/kg</b>
Benzo(a)anthracene	ND	1000	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	62 DIL	(42 - 110)
2-Fluorobiphenyl	64 DIL	(43 - 110)
Terphenyl-d14	75 DIL	(37 - 137)
Phenol-d5	61 DIL	(25 - 115)
2-Fluorophenol	66 DIL	(11 - 116)
2,4,6-Tribromophenol	61 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-409

TOTAL Metals

Lot-Sample #...: A5F040151-005

Matrix.....: SO

Date Sampled...: 06/03/05 13:02 Date Received...: 06/04/05

% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	2090	6.3	mg/kg	SW846 6010B	06/06-06/09/05	HCX651AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-409

General Chemistry

Lot-Sample #...: A5F040151-005    Work Order #...: HCX65    Matrix.....: SO  
Date Sampled...: 06/03/05 13:02    Date Received..: 06/04/05  
% Moisture.....: 20

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	79.7	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-410

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-006    Work Order #...: HCX661AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 13:04    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/13/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 2.5  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	970	ug/kg
Benzo(a)pyrene	ND	970	ug/kg
Dibenz(a,h)anthracene	ND	970	ug/kg
Dibenzofuran	ND	970	ug/kg
Indeno(1,2,3-cd)pyrene	ND	970	ug/kg
4-Methylphenol	ND	970	ug/kg
Naphthalene	ND	970	ug/kg
Benzo(a)anthracene	ND	970	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	57 DIL	(42 - 110)
2-Fluorobiphenyl	59 DIL	(43 - 110)
Terphenyl-d14	73 DIL	(37 - 137)
Phenol-d5	59 DIL	(25 - 115)
2-Fluorophenol	61 DIL	(11 - 116)
2,4,6-Tribromophenol	62 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-410

TOTAL Metals

Lot-Sample #...: A5F040151-006

Matrix.....: SO

Date Sampled...: 06/03/05 13:04 Date Received...: 06/04/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	1920	5.9	mg/kg	SW846 6010B	06/06-06/09/05	HCX661AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-410

General Chemistry

Lot-Sample #...: A5F040151-006    Work Order #...: HCX66    Matrix.....: SO  
Date Sampled...: 06/03/05 13:04    Date Received..: 06/04/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.9	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-411

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-007    Work Order #...: HCX671AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:55    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/08/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 5  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	9300	1900	ug/kg
Benzo(a)pyrene	7000	1900	ug/kg
Dibenz(a,h)anthracene	2100	1900	ug/kg
Dibenzofuran	ND	1900	ug/kg
Indeno(1,2,3-cd)pyrene	5900	1900	ug/kg
4-Methylphenol	ND	1900	ug/kg
Naphthalene	3500	1900	ug/kg
Benzo(a)anthracene	2900	1900	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	74 DIL	(42 - 110)
2-Fluorobiphenyl	66 DIL	(43 - 110)
Terphenyl-d14	71 DIL	(37 - 137)
Phenol-d5	82 DIL	(25 - 115)
2-Fluorophenol	65 DIL	(11 - 116)
2,4,6-Tribromophenol	78 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-411

TOTAL Metals

Lot-Sample #...: A5F040151-007

Matrix.....: SO

Date Sampled...: 06/03/05 12:55 Date Received...: 06/04/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	540	1.1	mg/kg	SW846 6010B	06/06-06/09/05	HCX671AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-411

General Chemistry

Lot-Sample #...: A5F040151-007    Work Order #...: HCX67    Matrix.....: SO  
Date Sampled...: 06/03/05 12:55    Date Received..: 06/04/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.6	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-412

GC/MS Semivolatiles

Lot-Sample #...: A5F040151-008    Work Order #...: HCX681AD    Matrix.....: SO  
 Date Sampled...: 06/03/05 12:59    Date Received...: 06/04/05  
 Prep Date.....: 06/05/05    Analysis Date...: 06/08/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 1  
 % Moisture.....: 15    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	730	390	ug/kg
Benzo(a)pyrene	420	390	ug/kg
Dibenz(a,h)anthracene	ND	390	ug/kg
Dibenzofuran	ND	390	ug/kg
Indeno(1,2,3-cd)pyrene	ND	390	ug/kg
4-Methylphenol	ND	390	ug/kg
Naphthalene	ND	390	ug/kg
Benzo(a)anthracene	510	390	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	82 DIL	(42 - 110)
2-Fluorobiphenyl	75 DIL	(43 - 110)
Terphenyl-d14	93 DIL	(37 - 137)
Phenol-d5	67 DIL	(25 - 115)
2-Fluorophenol	42 DIL	(11 - 116)
2,4,6-Tribromophenol	47 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-412

TOTAL Metals

Lot-Sample #...: A5F040151-008

Matrix.....: SO

Date Sampled...: 06/03/05 12:59 Date Received...: 06/04/05

% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5157034

Arsenic	50.3	5.9	mg/kg	SW846 6010B	06/06-06/09/05	HCX681AC
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Dilution Factor: 5

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-060305-PP-412

General Chemistry

Lot-Sample #...: A5F040151-008    Work Order #...: HCX68    Matrix.....: SO  
Date Sampled...: 06/03/05 12:59    Date Received..: 06/04/05  
% Moisture.....: 15

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	84.6	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5F040151  
MB Lot-Sample #: A5F050000-034

Work Order #...: HC0WN1AA

Matrix.....: SOLID

Prep Date.....: 06/05/05

Analysis Date..: 06/08/05

Prep Batch #...: 5156034

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	93	( 42 - 110)
2-Fluorobiphenyl	85	( 43 - 110)
Terphenyl-d14	107	( 37 - 137)
Phenol-d5	85	( 25 - 115)
2-Fluorophenol	88	( 11 - 116)
2,4,6-Tribromophenol	72	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5F040151

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>MB Lot-Sample #:</b> A5F060000-034		<b>Prep Batch #...</b> : 5157034				
Arsenic	ND	1.0	mg/kg	SW846 6010B	06/06-06/09/05	HC00M1AC
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5F040151

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids		Work Order #:	HC54V1AA	MB Lot-Sample #:	A5F070000-464	
	ND	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158464
		Dilution Factor: 1				
Percent Solids		Work Order #:	HC5431AA	MB Lot-Sample #:	A5F070000-476	
	ND	10.0	%	MCAWW 160.3 MOD	06/07-06/08/05	5158476
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F040151      Work Order #...: HC0WN1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5F050000-034  
 Prep Date.....: 06/05/05      Analysis Date...: 06/08/05  
 Prep Batch #...: 5156034  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	80	(45 - 110)	SW846 8270C
Acenaphthene	74	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	88	(48 - 111)	SW846 8270C
Pyrene	88	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	91	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	83	(38 - 110)	SW846 8270C
Pentachlorophenol	56	(10 - 123)	SW846 8270C
Phenol	74	(35 - 110)	SW846 8270C
2-Chlorophenol	74	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	75	(43 - 110)	SW846 8270C
4-Nitrophenol	86	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	89	(42 - 110)
2-Fluorobiphenyl	77	(43 - 110)
Terphenyl-d14	93	(37 - 137)
Phenol-d5	80	(25 - 115)
2-Fluorophenol	81	(11 - 116)
2,4,6-Tribromophenol	80	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5F040151

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-----------------------------------	----------------------------------	---------------	---	---------------------

LCS Lot-Sample#: A5F060000-034 Prep Batch #...: 5157034

Arsenic 92 (80 - 120) SW846 6010B 06/06-06/09/05 HC00M1A6

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F030161      Work Order #...: HCVF01AQ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5F030161-001      HCVF01AR-MSD  
 Date Sampled...: 06/02/05 15:30      Date Received...: 06/03/05  
 Prep Date.....: 06/05/05      Analysis Date...: 06/08/05  
 Prep Batch #...: 5156033  
 Dilution Factor: 5

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
<b>Acenaphthene</b>	<b>76</b>	<b>(13 - 133)</b>			<b>SW846 8270C</b>
	<b>83</b>	<b>(13 - 133)</b>	<b>7.8</b>	<b>(0-44)</b>	<b>SW846 8270C</b>
Acenaphthylene	87	(43 - 120)			SW846 8270C
	93	(43 - 120)	7.1	(0-75)	SW846 8270C
Anthracene	97	(34 - 137)			SW846 8270C
	106	(34 - 137)	7.2	(0-83)	SW846 8270C
Benzo(a)anthracene	80	(30 - 136)			SW846 8270C
	90	(30 - 136)	8.0	(0-63)	SW846 8270C
Benzo(a)pyrene	92	(28 - 142)			SW846 8270C
	93	(28 - 142)	0.88	(0-86)	SW846 8270C
Benzo(b)fluoranthene	79	(31 - 139)			SW846 8270C
	75	(31 - 139)	3.3	(0-67)	SW846 8270C
Benzo(ghi)perylene	92	(23 - 142)			SW846 8270C
	95	(23 - 142)	2.7	(0-89)	SW846 8270C
Benzo(k)fluoranthene	99	(30 - 133)			SW846 8270C
	101	(30 - 133)	1.7	(0-84)	SW846 8270C
bis(2-Chloroethoxy) methane	67	(46 - 116)			SW846 8270C
	76	(46 - 116)	12	(0-97)	SW846 8270C
bis(2-Chloroethyl)- ether	96	(49 - 123)			SW846 8270C
	94	(49 - 123)	1.4	(0-93)	SW846 8270C
bis(2-Ethylhexyl) phthalate	109	(36 - 131)			SW846 8270C
	112	(36 - 131)	2.6	(0-54)	SW846 8270C
4-Bromophenyl phenyl ether	98	(47 - 121)			SW846 8270C
	103	(47 - 121)	5.1	(0-95)	SW846 8270C
Butyl benzyl phthalate	102	(34 - 136)			SW846 8270C
	105	(34 - 136)	3.0	(0-94)	SW846 8270C
Carbazole	91	(40 - 130)			SW846 8270C
	102	(40 - 130)	12	(0-85)	SW846 8270C
4-Chloroaniline	29	(10 - 110)			SW846 8270C
	40	(10 - 110)	31	(0-99)	SW846 8270C
<b>4-Chloro-3-methylphenol</b>	<b>59</b>	<b>(17 - 128)</b>			<b>SW846 8270C</b>
	<b>75</b>	<b>(17 - 128)</b>	<b>24</b>	<b>(0-55)</b>	<b>SW846 8270C</b>

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F030161      Work Order #...: HCVF01AQ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5F030161-001      HCVF01AR-MSD

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2-Chloronaphthalene	79	(43 - 125)			SW846 8270C
	82	(43 - 125)	4.3	(0-75)	SW846 8270C
<b>2-Chlorophenol</b>	<b>24</b>	<b>(17 - 116)</b>			<b>SW846 8270C</b>
	<b>27</b>	<b>(17 - 116)</b>	<b>11</b>	<b>(0-54)</b>	<b>SW846 8270C</b>
4-Chlorophenyl phenyl ether	96	(47 - 119)			SW846 8270C
	101	(47 - 119)	5.6	(0-74)	SW846 8270C
Chrysene	81	(28 - 139)			SW846 8270C
	84	(28 - 139)	2.1	(0-63)	SW846 8270C
Dibenz(a,h)anthracene	93	(31 - 142)			SW846 8270C
	96	(31 - 142)	2.7	(0-99)	SW846 8270C
Dibenzofuran	90	(35 - 132)			SW846 8270C
	95	(35 - 132)	5.1	(0-58)	SW846 8270C
3,3'-Dichlorobenzidine	57	(10 - 110)			SW846 8270C
	57	(10 - 110)	0.39	(0-99)	SW846 8270C
2,4-Dichlorophenol	0.0 a	(45 - 122)			SW846 8270C
	18 a,p	(45 - 122)	200	(0-85)	SW846 8270C
Diethyl phthalate	98	(45 - 122)			SW846 8270C
	102	(45 - 122)	4.2	(0-76)	SW846 8270C
2,4-Dimethylphenol	57	(31 - 119)			SW846 8270C
	69	(31 - 119)	19	(0-99)	SW846 8270C
Dimethyl phthalate	88	(48 - 124)			SW846 8270C
	95	(48 - 124)	8.6	(0-75)	SW846 8270C
Di-n-butyl phthalate	97	(44 - 128)			SW846 8270C
	109	(44 - 128)	11	(0-74)	SW846 8270C
4,6-Dinitro-2-methylphenol	0.0 a	(10 - 142)			SW846 8270C
	0.0 a	(10 - 142)	0.0	(0-99)	SW846 8270C
2,4-Dinitrophenol	0.0 a	(10 - 149)			SW846 8270C
	0.0 a	(10 - 149)	0.0	(0-99)	SW846 8270C
<b>2,4-Dinitrotoluene</b>	<b>67</b>	<b>(10 - 171)</b>			<b>SW846 8270C</b>
	<b>74</b>	<b>(10 - 171)</b>	<b>9.7</b>	<b>(0-45)</b>	<b>SW846 8270C</b>
2,6-Dinitrotoluene	93	(45 - 124)			SW846 8270C
	105	(45 - 124)	12	(0-99)	SW846 8270C
Di-n-octyl phthalate	120	(34 - 143)			SW846 8270C
	124	(34 - 143)	3.7	(0-99)	SW846 8270C
Fluoranthene	91	(25 - 150)			SW846 8270C
	100	(25 - 150)	4.8	(0-92)	SW846 8270C
Fluorene	97	(35 - 133)			SW846 8270C
	93	(35 - 133)	3.6	(0-80)	SW846 8270C

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F030161      Work Order #...: HCVF01AQ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5F030161-001      HCVF01AR-MSD

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Hexachlorobenzene	85	(45 - 123)			SW846 8270C
	93	(45 - 123)	9.3	(0-74)	SW846 8270C
Hexachlorobutadiene	74	(43 - 126)			SW846 8270C
	81	(43 - 126)	8.6	(0-86)	SW846 8270C
Hexachlorocyclopenta- diene	0.0 a	(10 - 110)			SW846 8270C
	0.0 a	(10 - 110)	0.0	(0-99)	SW846 8270C
Hexachloroethane	62	(36 - 134)			SW846 8270C
	59	(36 - 134)	4.2	(0-97)	SW846 8270C
Indeno(1,2,3-cd)pyrene	93	(20 - 147)			SW846 8270C
	91	(20 - 147)	1.7	(0-73)	SW846 8270C
Isophorone	80	(45 - 116)			SW846 8270C
	91	(45 - 116)	14	(0-95)	SW846 8270C
2-Methylnaphthalene	77	(30 - 137)			SW846 8270C
	87	(30 - 137)	12	(0-79)	SW846 8270C
2-Methylphenol	62	(33 - 113)			SW846 8270C
	63	(33 - 113)	2.1	(0-39)	SW846 8270C
4-Methylphenol	64	(36 - 123)			SW846 8270C
	75	(36 - 123)	17	(0-86)	SW846 8270C
Naphthalene	68	(31 - 138)			SW846 8270C
	75	(31 - 138)	9.0	(0-65)	SW846 8270C
2-Nitroaniline	93	(42 - 126)			SW846 8270C
	108	(42 - 126)	15	(0-99)	SW846 8270C
3-Nitroaniline	81	(17 - 113)			SW846 8270C
	74	(17 - 113)	8.6	(0-99)	SW846 8270C
4-Nitroaniline	94	(14 - 125)			SW846 8270C
	104	(14 - 125)	10	(0-99)	SW846 8270C
Nitrobenzene	82	(49 - 120)			SW846 8270C
	81	(49 - 120)	1.5	(0-99)	SW846 8270C
2-Nitrophenol	0.0 a	(44 - 125)			SW846 8270C
	0.0 a	(44 - 125)	0.0	(0-99)	SW846 8270C
<b>4-Nitrophenol</b>	<b>0.0 a</b>	<b>(10 - 148)</b>			<b>SW846 8270C</b>
	<b>0.0 a</b>	<b>(10 - 148)</b>	<b>0.0</b>	<b>(0-64)</b>	<b>SW846 8270C</b>
<b>N-Nitrosodi-n-propyl- amine</b>	<b>83</b>	<b>(12 - 128)</b>			<b>SW846 8270C</b>
	<b>86</b>	<b>(12 - 128)</b>	<b>3.7</b>	<b>(0-50)</b>	<b>SW846 8270C</b>
N-Nitrosodiphenylamine	91	(37 - 135)			SW846 8270C
	94	(37 - 135)	4.1	(0-94)	SW846 8270C

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F030161      Work Order #...: HCVF01AQ-MS      Matrix.....: SO  
 MS Lot-Sample #: A5F030161-001      HCVF01AR-MSD

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
bis(2-Chloroisopropyl) ether	73	(41 - 125)			SW846 8270C
	74	(41 - 125)	2.5	(0-89)	SW846 8270C
<b>Pentachlorophenol</b>	<b>0.0 a</b>	<b>(10 - 144)</b>			<b>SW846 8270C</b>
	<b>0.0 a</b>	<b>(10 - 144)</b>	<b>0.0</b>	<b>(0-87)</b>	<b>SW846 8270C</b>
Phenanthrene	90	(24 - 145)			SW846 8270C
	93	(24 - 145)	2.0	(0-81)	SW846 8270C
<b>Phenol</b>	<b>64</b>	<b>(10 - 148)</b>			<b>SW846 8270C</b>
	<b>71</b>	<b>(10 - 148)</b>	<b>10</b>	<b>(0-50)</b>	<b>SW846 8270C</b>
<b>Pyrene</b>	<b>81</b>	<b>(10 - 218)</b>			<b>SW846 8270C</b>
	<b>76</b>	<b>(10 - 218)</b>	<b>3.5</b>	<b>(0-66)</b>	<b>SW846 8270C</b>
2,4,5-Trichloro-phenol	0.0 a	(39 - 123)			SW846 8270C
	0.0 a	(39 - 123)	0.0	(0-99)	SW846 8270C
2,4,6-Trichloro-phenol	0.0 a	(43 - 123)			SW846 8270C
	0.0 a	(43 - 123)	0.0	(0-99)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	71 DIL	(42 - 110)
	76 DIL	(42 - 110)
2-Fluorobiphenyl	72 DIL	(43 - 110)
	74 DIL	(43 - 110)
Terphenyl-d14	79 DIL	(37 - 137)
	87 DIL	(37 - 137)
Phenol-d5	58 DIL	(25 - 115)
	64 DIL	(25 - 115)
2-Fluorophenol	18 DIL	(11 - 116)
	19 DIL	(11 - 116)
2,4,6-Tribromophenol	0.0	(35 - 116)
	Qualifiers: DIL,* 0.0	(35 - 116)
	Qualifiers: DIL,*	

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F030161      Work Order #...: HCVF01AQ-MS      Matrix.....: SO  
MS Lot-Sample #: A5F030161-001      HCVF01AR-MSD

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>

**NOTE(S):**

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- Calculations are performed before rounding to avoid round-off errors in calculated results.
- Bold print denotes control parameters
- Results and reporting limits have been adjusted for dry weight.
- DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.
- \* Surrogate recovery is outside stated control limits.
- a Spiked analyte recovery is outside stated control limits.
- p Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5F040151

Matrix.....: SOLID

Date Sampled...: 05/31/05 13:00 Date Received...: 06/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5F010106-001 Prep Batch #...: 5157034

% Moisture.....: 11

Arsenic	97	(75 - 125)			SW846 6010B	06/06-06/09/05	HCMNJ1C6
	96	(75 - 125)	0.35	(0-20)	SW846 6010B	06/06-06/09/05	HCMNJ1C7

Dilution Factor: 5

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5F040151

Work Order #...: HCQ09-SMP  
HCQ09-DUP

Matrix.....: SOLID

Date Sampled...: 06/01/05 12:05 Date Received...: 06/02/05

% Moisture.....: 18

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	81.7	80.7	%	1.2	(0-20)	SD Lot-Sample #: A5F020167-008 MCAWW 160.3 MOD	06/07-06/08/05	5158464

Dilution Factor: 1



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5F040151

Work Order #...: HCPAD-SMP  
HCPAD-DUP

Matrix.....: SOLID

Date Sampled...: 05/31/05 14:15 Date Received...: 06/01/05

% Moisture.....: 9.9

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	90.1	88.4	%	1.8	(0-20)	MCAWW 160.3 MOD	06/07-06/08/05	5158476
Dilution Factor: 1								

**SAMPLE DUPLICATE EVALUATION REPORT**

**General Chemistry**

Client Lot #...: A5F040151

Work Order #...: HCQ3Q-SMP  
 HCQ3Q-DUP

Matrix.....: SOLID

Date Sampled...: 06/01/05 18:55 Date Received...: 06/02/05

% Moisture.....: 7.0

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	93.0	92.8	%	0.24	(0-20)	MCAWW 160.3 MOD	06/07-06/08/05	5158476
				Dilution Factor: 1				
						SD Lot-Sample #: A5F020186-003		



**CONESTOGA-ROVERS & ASSOCIATES**

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:  
019023-84

PROJECT NAME:  
Waukegan MAP Cole Site

CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Prakash Pathak*

PARAMETERS:  
Total  
Arsenic  
Site Specifics

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION No.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS
6/3/5	12	50	S-060305-PP-	Soil	1	X
6/3/5	12:52		S-060305-PP-	Soil	1	X
6/3/5	12:57		S-060305-PP-	Soil	1	X
6/3/5	13:01		S-060305-PP-	Soil	1	X
6/3/5	13:03		S-060305-PP-	Soil	1	X
6/3/5	13:04		S-060305-PP-	Soil	1	X
6/3/5	13:55		S-060305-PP-	Soil	1	X
6/3/5	12:59		S-060305-PP-	Soil	1	X

TOTAL NUMBER OF CONTAINERS

8

2 WIC TAT

RELINQUISHED BY: <i>[Signature]</i>	DATE: 6-3-05	RECEIVED BY: <i>[Signature]</i>	DATE: 6-3-05
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:

METHOD OF SHIPMENT: *FEDEX* AIR BILL NO. 8490 1342 7559

White - Fully Executed Copy  
 Yellow - Receiving Laboratory Copy  
 Pink - Shipper Copy  
 Goldenrod - Sampler Copy

SAMPLE TEAM: *P. PATHAK*

RECEIVED FOR LABORATORY BY: *[Signature]* 12558  
 DATE: 6/14/05 TIME: 9:30

**STL Cooler Receipt Form/Narrative**

Lot Number: 4SFO10151

**North Canton Facility**

Client: CRA  
Cooler Received on: 6/14/05

Project: \_\_\_\_\_  
Opened on: 6/14/05

Quote#: 48891  
by: Diana Mites  
(Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
If YES, Quantity \_\_\_\_\_  
Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 5.6 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry

COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No

9. Were samples at the correct pH? (record below/on back) Yes  No  NA

10. Were correct bottles used for the tests indicated? Yes  No

11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA

12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other

Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 030905-HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH

Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 019023**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5F180177**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**June 27, 2005**

## **CASE NARRATIVE**

A5F180177

The following report contains the analytical results for three solid samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 019023. The samples were received June 18, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on June 24 and 27, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 0.2° C.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

# - This value represents a probable combination of 3-Methylphenol (m- cresol) and 4-Methylphenol (p-cresol).

Matrix spikes/matrix spike duplicates associated with batches 5170020 and 5175041 are to be performed on unrelated samples but have not yet been analyzed. The laboratory control samples and method blanks met acceptance criteria; therefore, the results were accepted.

Sample S-061705-PP-415 had elevated reporting limits due to matrix interferences.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5F180177

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-061705-PP-413 06/17/05 13:58 001</b>				
Arsenic	741	1.4	mg/kg	SW846 6010B
Benzo(b)fluoranthene	15000	5600	ug/kg	SW846 8270C
Benzo(a)pyrene	8900	5600	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	6800	5600	ug/kg	SW846 8270C
4-Methylphenol	11000 #	5600	ug/kg	SW846 8270C
Naphthalene	11000	5600	ug/kg	SW846 8270C
Benzo(a)anthracene	8800	5600	ug/kg	SW846 8270C
Percent Solids	73.4	10.0	%	MCAWW 160.3 MOD
<b>S-061705-PP-414 06/17/05 13:55 002</b>				
Arsenic	602	1.1	mg/kg	SW846 6010B
Benzo(a)anthracene	520	370	ug/kg	SW846 8270C
Benzo(b)fluoranthene	840	370	ug/kg	SW846 8270C
Benzo(a)pyrene	410	370	ug/kg	SW846 8270C
Naphthalene	470	370	ug/kg	SW846 8270C
Percent Solids	89.8	10.0	%	MCAWW 160.3 MOD
<b>S-061705-PP-415 06/17/05 13:56 003</b>				
Arsenic	320	1.1	mg/kg	SW846 6010B
Benzo(b)fluoranthene	2400	1500	ug/kg	SW846 8270C
Benzo(a)pyrene	1600	1500	ug/kg	SW846 8270C
Naphthalene	2500	1500	ug/kg	SW846 8270C
Benzo(a)anthracene	1800	1500	ug/kg	SW846 8270C
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5F180177

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5F180177

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
HDXTW	001	S-061705-PP-413	06/17/05	13:58
HDXVH	002	S-061705-PP-414	06/17/05	13:55
HDXVN	003	S-061705-PP-415	06/17/05	13:56

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-413

GC/MS Semivolatiles

Lot-Sample #...: A5F180177-001    Work Order #...: HDXTW1AD    Matrix.....: SO  
 Date Sampled...: 06/17/05 13:58    Date Received...: 06/18/05  
 Prep Date.....: 06/19/05    Analysis Date...: 06/22/05  
 Prep Batch #...: 5170020  
 Dilution Factor: 12.5  
 % Moisture.....: 27    Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Benzo(b)fluoranthene	15000	5600	ug/kg
Benzo(a)pyrene	8900	5600	ug/kg
Dibenz(a,h)anthracene	ND	5600	ug/kg
Dibenzofuran	ND	5600	ug/kg
Indeno(1,2,3-cd)pyrene	6800	5600	ug/kg
4-Methylphenol	11000 #	5600	ug/kg
Naphthalene	11000	5600	ug/kg
Benzo(a)anthracene	8800	5600	ug/kg

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Nitrobenzene-d5	70 DIL	(42 - 110)
2-Fluorobiphenyl	63 DIL	(43 - 110)
Terphenyl-d14	68 DIL	(37 - 137)
Phenol-d5	53 DIL	(25 - 115)
2-Fluorophenol	43 DIL	(11 - 116)
2,4,6-Tribromophenol	84 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

# - This value represents a probable combination of 3-Methylphenol (m- cresol) and 4-methylphenol (p-cresol).

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-413

TOTAL Metals

Lot-Sample #...: A5F180177-001

Matrix.....: SO

Date Sampled...: 06/17/05 13:58 Date Received...: 06/18/05

% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5171024

Arsenic	741	1.4	mg/kg	SW846 6010B	06/20-06/21/05	HDXTW1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-413

General Chemistry

Lot-Sample #...: A5F180177-001    Work Order #...: HDXTW    Matrix.....: SO  
Date Sampled...: 06/17/05 13:58    Date Received...: 06/18/05  
% Moisture.....: 27

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	73.4	10.0	%	MCAWW 160.3 MOD	06/20-06/21/05	5171494

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-414

GC/MS Semivolatiles

Lot-Sample #...: A5F180177-002    Work Order #...: HDXVH2AD    Matrix.....: SO  
 Date Sampled...: 06/17/05 13:55    Date Received...: 06/18/05  
 Prep Date.....: 06/24/05    Analysis Date...: 06/27/05  
 Prep Batch #...: 5175041  
 Dilution Factor: 1  
 % Moisture.....: 10    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	520	370	ug/kg
Benzo(b)fluoranthene	840	370	ug/kg
Benzo(a)pyrene	410	370	ug/kg
Dibenz(a,h)anthracene	ND	370	ug/kg
Dibenzofuran	ND	370	ug/kg
Indeno(1,2,3-cd)pyrene	ND	370	ug/kg
4-Methylphenol	ND	370	ug/kg
Naphthalene	470	370	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	71	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	78	(37 - 137)
Phenol-d5	63	(25 - 115)
2-Fluorophenol	56	(11 - 116)
2,4,6-Tribromophenol	52	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-414

TOTAL Metals

Lot-Sample #...: A5F180177-002

Matrix.....: SO

Date Sampled...: 06/17/05 13:55 Date Received...: 06/18/05

% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5171024

Arsenic	602	1.1	mg/kg	SW846 6010B	06/20-06/21/05	HDXVH1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-414

General Chemistry

Lot-Sample #...: A5F180177-002    Work Order #...: HDXVH    Matrix.....: SO  
Date Sampled...: 06/17/05 13:55    Date Received..: 06/18/05  
% Moisture.....: 10

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	89.8	10.0	%	MCAWW 160.3 MOD	06/20-06/21/05	5171494

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-415

GC/MS Semivolatiles

Lot-Sample #...: A5F180177-003    Work Order #...: HDXVN1AD    Matrix.....: SO  
 Date Sampled...: 06/17/05 13:56    Date Received...: 06/18/05  
 Prep Date.....: 06/19/05    Analysis Date...: 06/22/05  
 Prep Batch #...: 5170020  
 Dilution Factor: 4  
 % Moisture.....: 11    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	2400	1500	ug/kg
Benzo(a)pyrene	1600	1500	ug/kg
Dibenz(a,h)anthracene	ND	1500	ug/kg
Dibenzofuran	ND	1500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1500	ug/kg
4-Methylphenol	ND	1500	ug/kg
Naphthalene	2500	1500	ug/kg
Benzo(a)anthracene	1800	1500	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	60 DIL	(42 - 110)
2-Fluorobiphenyl	55 DIL	(43 - 110)
Terphenyl-d14	60 DIL	(37 - 137)
Phenol-d5	52 DIL	(25 - 115)
2-Fluorophenol	35 DIL	(11 - 116)
2,4,6-Tribromophenol	48 DIL	(35 - 116)

**NOTE(S):**

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.  
 Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-415

TOTAL Metals

Lot-Sample #...: A5F180177-003

Matrix.....: SO

Date Sampled...: 06/17/05 13:56 Date Received...: 06/18/05

% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 5171024

Arsenic	320	1.1	mg/kg	SW846 6010B	06/20-06/21/05	HDXVN1AC
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-061705-PP-415

General Chemistry

Lot-Sample #...: A5F180177-003    Work Order #...: HDXVN    Matrix.....: SO  
Date Sampled...: 06/17/05 13:56    Date Received..: 06/18/05  
% Moisture.....: 11

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	88.7	10.0	%	MCAWW 160.3 MOD	06/20-06/21/05	5171494

Dilution Factor: 1

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5F180177  
MB Lot-Sample #: A5F190000-020

Work Order #...: HD0F21AA

Matrix.....: SOLID

Prep Date.....: 06/19/05

Analysis Date..: 06/22/05

Prep Batch #...: 5170020

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	66	( 42 - 110)
2-Fluorobiphenyl	54	( 43 - 110)
Terphenyl-d14	77	( 37 - 137)
Phenol-d5	65	( 25 - 115)
2-Fluorophenol	67	( 11 - 116)
2,4,6-Tribromophenol	43	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5F180177  
MB Lot-Sample #: A5F240000-041

Work Order #...: HD9961AA

Matrix.....: SOLID

Analysis Date...: 06/27/05  
Dilution Factor: 1

Prep Date.....: 06/24/05

Prep Batch #...: 5175041

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	82	(42 - 110)
2-Fluorobiphenyl	76	(43 - 110)
Terphenyl-d14	100	(37 - 137)
Phenol-d5	81	(25 - 115)
2-Fluorophenol	84	(11 - 116)
2,4,6-Tribromophenol	81	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5F180177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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MB Lot-Sample #: A5F200000-024 Prep Batch #...: 5171024

Arsenic	ND	1.0	mg/kg	SW846 6010B	06/20-06/21/05	HD0HT1AC
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Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5F180177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: HD2KJ1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5F200000-494 06/20-06/21/05	5171494
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F180177      Work Order #...: HD0F21AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5F190000-020  
 Prep Date.....: 06/19/05      Analysis Date...: 06/22/05  
 Prep Batch #...: 5170020  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	56	(45 - 110)	SW846 8270C
Acenaphthene	56	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	71	(48 - 111)	SW846 8270C
Pyrene	70	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	68	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	66	(38 - 110)	SW846 8270C
Pentachlorophenol	29	(10 - 123)	SW846 8270C
Phenol	56	(35 - 110)	SW846 8270C
2-Chlorophenol	52	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	57	(43 - 110)	SW846 8270C
4-Nitrophenol	66	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	62	(42 - 110)
2-Fluorobiphenyl	53	(43 - 110)
Terphenyl-d14	71	(37 - 137)
Phenol-d5	53	(25 - 115)
2-Fluorophenol	55	(11 - 116)
2,4,6-Tribromophenol	48	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5F180177      Work Order #...: HD9961AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5F240000-041  
 Prep Date.....: 06/24/05      Analysis Date...: 06/27/05  
 Prep Batch #...: 5175041  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	80	(45 - 110)	SW846 8270C
Acenaphthene	79	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	95	(48 - 111)	SW846 8270C
Pyrene	94	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	92	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	97	(38 - 110)	SW846 8270C
Pentachlorophenol	64	(10 - 123)	SW846 8270C
Phenol	86	(35 - 110)	SW846 8270C
2-Chlorophenol	85	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	89	(43 - 110)	SW846 8270C
4-Nitrophenol	78	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	76	(42 - 110)
2-Fluorobiphenyl	76	(43 - 110)
Terphenyl-d14	91	(37 - 137)
Phenol-d5	81	(25 - 115)
2-Fluorophenol	81	(11 - 116)
2,4,6-Tribromophenol	88	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5F180177

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	---------------	-----------------------------------	---------------------

LCS Lot-Sample#: A5F200000-024 Prep Batch #...: 5171024

Arsenic 89 (80 - 120) SW846 6010B 06/20-06/21/05 HD0HT1A6

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5F180177

Matrix.....: SOLID

Date Sampled...: 06/17/05 10:40 Date Received...: 06/18/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
------------------	-------------------------	------------------------	------------	-------------------	---------------	-----------------------------------	---------------------

MS Lot-Sample #: A5F180185-001 Prep Batch #...: 5171024

% Moisture.....: 19

Arsenic	87	(75 - 125)			SW846 6010B	06/20-06/21/05	HDXWR1A8
	84	(75 - 125)	2.6	(0-20)	SW846 6010B	06/20-06/21/05	HDXWR1A9

Dilution Factor: 10

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.  
Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5F180177

Work Order #...: HDXRF-SMP  
HDXRF-DUP

Matrix.....: SOLID

Date Sampled...: 06/17/05 11:30

Date Received...: 06/18/05

% Moisture.....: 4.7

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	95.3	94.0	%	1.4	(0-20)	MCAWW 160.3 MOD	06/20-06/21/05	5171494
							SD Lot-Sample #: A5F180170-003	
							Dilution Factor: 1	

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5F180177

Work Order #...: HDXRH-SMP  
 HDXRH-DUP

Matrix.....: SOLID

Date Sampled...: 06/17/05 13:15    Date Received...: 06/18/05

% Moisture.....: 6.2

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	93.8	93.4	%	0.43	(0-20)	MCAWW 160.3 MOD	06/20-06/21/05	5171494
Dilution Factor: 1								



# CONESTOGA-ROVERS & ASSOCIATES

8615 W. Bryn Mawr Avenue  
Chicago, Illinois 60631  
(773)380-9933 phone  
(773)380-6421 fax

SHIPPED TO  
(Laboratory Name):

STL North Canton

REFERENCE NUMBER:

019223

PROJECT NAME:

Waukegan MCP C&E Site

## CHAIN-OF-CUSTODY RECORD

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: *Patel, Patalk*

PARAMETERS:

Total  
10  
10  
Site Specific

REMARKS

SEQ. No.	DATE	TIME	SAMPLE IDENTIFICATION NO.	SAMPLE MATRIX	No. OF CONTAINERS	REMARKS	
	6/17/05	58	5-061705-PP-413	Soil	1	X	
	6/17/05	135	5-061705-PP-414	Soil	1	X	
	6/17/05	1306	5-061705-PP-415	Soil	1	X	
TOTAL NUMBER OF CONTAINERS					3	2	WIC TAT

RELINQUISHED BY: *[Signature]* DATE: 6/17/05 TIME: 1500 RECEIVED BY: *[Signature]* DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

RELINQUISHED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_ RECEIVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

METHOD OF SHIPMENT: *FedEx* AIR BILL NO. 8490 1342 7490

White - Fully Executed Copy  
Yellow - Receiving Laboratory Copy  
Pink - Shipper Copy  
Goldenrod - Sampler Copy

SAMPLE TEAM: *P. PATHAK*

RECEIVED FOR LABORATORY BY: *[Signature]* DATE: 6/18/05 TIME: 9:50

**STL Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: ASF180177  
MGP Cdbe Site

Client: CRA Project: Waukegan Quote#: \_\_\_\_\_  
 Cooler Received on: 6/18/05 Opened on: 6/18/05 by: Keith B. Miller  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_  
 STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_  
 1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity 1 Yes  No  NA   
 Were the custody seals signed and dated? Yes  No  NA   
 2. Shipper's packing slip attached to this form? Yes  No  NA   
 3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No   
 4. Did you sign the custody papers in the appropriate place? Yes  No   
 5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_  
 6. Cooler temperature upon receipt 0.2 °C (see back of form for multiple coolers/temp)  
 METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None   
 7. Did all bottles arrive in good condition (Unbroken)? Yes  No   
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No   
 9. Were samples at the correct pH? (record below/on back) Yes  No  NA   
 10. Were correct bottles used for the tests indicated? Yes  No   
 11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA   
 12. Sufficient quantity received to perform indicated analyses? Yes  No   
 Contacted PM \_\_\_\_\_ Date: \_\_\_\_\_ by: \_\_\_\_\_ via Voice Mail  Verbal  Other   
 Concerning: \_\_\_\_\_

**1. CHAIN OF CUSTODY**

The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 051105-HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -100504-NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**

Client ID	pH	Date	Initials



***END OF REPORT***



**STL**

**STL North Canton**  
4101 Shuffel Drive NW  
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772  
www.stl-inc.com

## **ANALYTICAL REPORT**

**PROJECT NO. 19023-84**

**WAUKEGAN MGP COKE SITE**

**Lot #: A5G010127**

**Dave Hendren**

**Conestoga-Rovers & Associates**  
8615 W. Bryn Mawr  
Chicago, IL 60631

**SEVERN TRENT LABORATORIES, INC.**

**Amy L. McCormick**  
Project Manager

**July 12, 2005**

## **CASE NARRATIVE**

A5G010127

The following report contains the analytical results for one solid sample and one water sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the Waukegan MGP Coke Site, project number 19023-84. The samples were received July 01, 2005, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dave Hendren on July 11, 2005. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is

## **SUPPLEMENTAL QC INFORMATION**

### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 20.6°C. with water present.

## **CASE NARRATIVE (continued)**

### **GC/MS SEMIVOLATILES**

The analytical results met the requirements of the laboratory's QA/QC program.

### **METALS**

The analytical results met the requirements of the laboratory's QA/QC program.

### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

#### **Volatile (GC or GC/MS)**

Methylene chloride  
Acetone  
2-Butanone

#### **Semivolatile (GC/MS)**

Phthalate Esters

#### **Metals**

Copper  
Iron  
Zinc  
Lead\*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

## QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

### **STL North Canton Certifications and Approvals:**

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), North Carolina (#39702), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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# EXECUTIVE SUMMARY - Detection Highlights

A5G010127

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>S-063005-PP-416 06/30/05 10:42 001</b>				
Arsenic	15.7	1.1	mg/kg	SW846 6010B
Percent Solids	94.5	10.0	%	MCAWW 160.3 MOD

# ANALYTICAL METHODS SUMMARY

A5G010127

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Residue as Percent Solids	MCAWW 160.3 MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A5G010127

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
HEQ1L	001	S-063005-PP-416	06/30/05	10:42
HEQ13	002	W-063005-PP-517	06/30/05	10:55

## **NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-063005-PP-416

GC/MS Semivolatiles

Lot-Sample #...: A5G010127-001    Work Order #...: HEQ1L1AE    Matrix.....: SO  
 Date Sampled...: 06/30/05 10:42    Date Received...: 07/01/05  
 Prep Date.....: 07/02/05    Analysis Date...: 07/05/05  
 Prep Batch #...: 5183021  
 Dilution Factor: 1  
 % Moisture.....: 5.5    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(b)fluoranthene	ND	350	ug/kg
Benzo(a)pyrene	ND	350	ug/kg
Dibenz(a,h)anthracene	ND	350	ug/kg
Dibenzofuran	ND	350	ug/kg
Indeno(1,2,3-cd)pyrene	ND	350	ug/kg
4-Methylphenol	ND	350	ug/kg
Naphthalene	ND	350	ug/kg
Benzo(a)anthracene	ND	350	ug/kg

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	79	(42 - 110)
2-Fluorobiphenyl	68	(43 - 110)
Terphenyl-d14	83	(37 - 137)
Phenol-d5	78	(25 - 115)
2-Fluorophenol	76	(11 - 116)
2,4,6-Tribromophenol	82	(35 - 116)

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-063005-PP-416

TOTAL Metals

Lot-Sample #...: A5G010127-001

Matrix.....: SO

Date Sampled...: 06/30/05 10:42 Date Received...: 07/01/05

% Moisture.....: 5.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
------------------	---------------	----------------------------------	--------------	---------------	---	-------------------------------

Prep Batch #...: 5186027

Arsenic	15.7	1.1	mg/kg	SW846 6010B	07/05-07/08/05	HEQ1L1AA
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Dilution Factor: 1

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

Conestoga-Rovers & Associates, Inc.

Client Sample ID: S-063005-PP-416

General Chemistry

Lot-Sample #...: A5G010127-001    Work Order #...: HEQ1L    Matrix.....: SO  
Date Sampled...: 06/30/05 10:42    Date Received..: 07/01/05  
% Moisture.....: 5.5

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Percent Solids	94.5	10.0	%	MCAWW 160.3 MOD	07/01-07/05/05	5182322

Dilution Factor: 1

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-063005-PP-517

GC/MS Semivolatiles

Lot-Sample #...: A5G010127-002    Work Order #...: HEQ131AC    Matrix.....: WG  
 Date Sampled...: 06/30/05 10:55    Date Received...: 07/01/05  
 Prep Date.....: 07/02/05    Analysis Date...: 07/06/05  
 Prep Batch #...: 5183017  
 Dilution Factor: 1    Method.....: SW846 8270C

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	
		<u>LIMIT</u>	<u>UNITS</u>
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Dibenzofuran	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	( 32 - 112)
2-Fluorobiphenyl	60	( 30 - 110)
Terphenyl-d14	70	( 10 - 144)
Phenol-d5	64	( 13 - 113)
2-Fluorophenol	62	( 13 - 110)
2,4,6-Tribromophenol	62	( 21 - 122)

Conestoga-Rovers & Associates, Inc.

Client Sample ID: W-063005-PP-517

TOTAL Metals

Lot-Sample #...: A5G010127-002

Matrix.....: WG

Date Sampled...: 06/30/05 10:55 Date Received...: 07/01/05

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Prep Batch #...: 5186018						
Arsenic	ND	0.010	mg/L	SW846 6010B	07/05-07/08/05	HEQ131AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127  
 MB Lot-Sample #: A5G020000-017

Work Order #...: HETTM1AA

Matrix.....: WATER

Prep Date.....: 07/02/05

Analysis Date..: 07/06/05

Prep Batch #...: 5183017

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	10	ug/L	SW846 8270C
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270C
4-Methylphenol	ND	10	ug/L	SW846 8270C
Naphthalene	ND	10	ug/L	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	75	( 32 - 112)
2-Fluorobiphenyl	59	( 30 - 110)
Terphenyl-d14	74	( 10 - 144)
Phenol-d5	69	( 13 - 113)
2-Fluorophenol	61	( 13 - 110)
2,4,6-Tribromophenol	61	( 21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127  
MB Lot-Sample #: A5G020000-021

Work Order #...: HETTP1AA

Matrix.....: SOLID

Prep Date.....: 07/02/05

Analysis Date..: 07/05/05

Prep Batch #...: 5183021

Dilution Factor: 1

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Dibenz(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Nitrobenzene-d5	76	( 42 - 110)
2-Fluorobiphenyl	64	( 43 - 110)
Terphenyl-d14	85	( 37 - 137)
Phenol-d5	68	( 25 - 115)
2-Fluorophenol	70	( 11 - 116)
2,4,6-Tribromophenol	64	( 35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
MB Lot-Sample #: A5G050000-018		Prep Batch #...: 5186018				
Arsenic	ND	0.010	mg/L	SW846 6010B	07/05-07/08/05	HEVRM1AM
		Dilution Factor: 1				

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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MB Lot-Sample #: A5G050000-027 Prep Batch #...: 5186027

Arsenic	ND	1.0	mg/kg	SW846 6010B	07/05-07/08/05	HEVR71AA
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Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A5G010127

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Percent Solids	ND	Work Order #: HEV0P1AA 10.0	%	MB Lot-Sample #: MCAWW 160.3 MOD	A5G010000-322 07/01-07/05/05	5182322
		Dilution Factor: 1				

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HETTM1AC      Matrix.....: WATER  
 LCS Lot-Sample#: A5G020000-017  
 Prep Date.....: 07/02/05      Analysis Date...: 07/06/05  
 Prep Batch #...: 5183017  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	49	(31 - 110)	SW846 8270C
Acenaphthene	64	(39 - 118)	SW846 8270C
2,4-Dinitrotoluene	70	(47 - 131)	SW846 8270C
Pyrene	69	(46 - 130)	SW846 8270C
N-Nitrosodi-n-propyl- amine	74	(30 - 115)	SW846 8270C
1,4-Dichlorobenzene	58	(28 - 110)	SW846 8270C
Pentachlorophenol	46	(10 - 140)	SW846 8270C
Phenol	66	(10 - 131)	SW846 8270C
2-Chlorophenol	64	(19 - 124)	SW846 8270C
4-Chloro-3-methylphenol	67	(29 - 124)	SW846 8270C
4-Nitrophenol	70	(19 - 144)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	75	(32 - 112)
2-Fluorobiphenyl	59	(30 - 110)
Terphenyl-d14	71	(10 - 144)
Phenol-d5	64	(13 - 113)
2-Fluorophenol	62	(13 - 110)
2,4,6-Tribromophenol	63	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HETTP1AC      Matrix.....: SOLID  
 LCS Lot-Sample#: A5G020000-021  
 Prep Date.....: 07/02/05      Analysis Date...: 07/05/05  
 Prep Batch #...: 5183021  
 Dilution Factor: 1

<u>PARAMETER</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	69	(45 - 110)	SW846 8270C
Acenaphthene	70	(44 - 110)	SW846 8270C
2,4-Dinitrotoluene	81	(48 - 111)	SW846 8270C
Pyrene	79	(42 - 122)	SW846 8270C
N-Nitrosodi-n-propyl- amine	76	(38 - 110)	SW846 8270C
1,4-Dichlorobenzene	80	(38 - 110)	SW846 8270C
Pentachlorophenol	33	(10 - 123)	SW846 8270C
Phenol	71	(35 - 110)	SW846 8270C
2-Chlorophenol	69	(43 - 110)	SW846 8270C
4-Chloro-3-methylphenol	74	(43 - 110)	SW846 8270C
4-Nitrophenol	72	(22 - 128)	SW846 8270C

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Nitrobenzene-d5	75	(42 - 110)
2-Fluorobiphenyl	66	(43 - 110)
Terphenyl-d14	81	(37 - 137)
Phenol-d5	70	(25 - 115)
2-Fluorophenol	70	(11 - 116)
2,4,6-Tribromophenol	76	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5G050000-018 Prep Batch #...: 5186018

Arsenic 89 (80 - 120) SW846 6010B 07/05-07/08/05 HEVRM1A2

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A5G050000-027 Prep Batch #...: 5186027

Arsenic 84 (80 - 120) SW846 6010B 07/05-07/08/05 HEVR71AC

Dilution Factor: 1

**NOTE(S):**

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Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HER5N1AL-MS      Matrix.....: WATER  
 MS Lot-Sample #: A5G010263-006      HER5N1AM-MSD  
 Date Sampled...: 06/30/05 15:30      Date Received...: 07/01/05  
 Prep Date.....: 07/02/05      Analysis Date...: 07/06/05  
 Prep Batch #...: 5183017  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	43	(22 - 110)			SW846 8270C
	33	(22 - 110)	28	(0-37)	SW846 8270C
Acenaphthene	61	(26 - 118)			SW846 8270C
	55	(26 - 118)	9.6	(0-35)	SW846 8270C
2,4-Dinitrotoluene	72	(31 - 131)			SW846 8270C
	73	(31 - 131)	2.3	(0-32)	SW846 8270C
Pyrene	70	(27 - 138)			SW846 8270C
	67	(27 - 138)	4.5	(0-31)	SW846 8270C
N-Nitrosodi-n-propyl-amine	67	(18 - 115)			SW846 8270C
	65	(18 - 115)	4.5	(0-36)	SW846 8270C
1,4-Dichlorobenzene	51	(18 - 110)			SW846 8270C
	39	(18 - 110)	25	(0-36)	SW846 8270C
Pentachlorophenol	56	(10 - 140)			SW846 8270C
	59	(10 - 140)	5.2	(0-56)	SW846 8270C
Phenol	61	(10 - 131)			SW846 8270C
	60	(10 - 131)	1.4	(0-43)	SW846 8270C
2-Chlorophenol	63	(19 - 124)			SW846 8270C
	57	(19 - 124)	8.6	(0-43)	SW846 8270C
4-Chloro-3-methylphenol	68	(21 - 124)			SW846 8270C
	69	(21 - 124)	1.6	(0-55)	SW846 8270C
4-Nitrophenol	76	(10 - 145)			SW846 8270C
	80	(10 - 145)	5.7	(0-34)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	75	(32 - 112)
	68	(32 - 112)
2-Fluorobiphenyl	57	(30 - 110)
	45	(30 - 110)
Terphenyl-d14	73	(10 - 144)
	70	(10 - 144)
Phenol-d5	62	(13 - 113)
	60	(13 - 113)
2-Fluorophenol	63	(13 - 110)
	58	(13 - 110)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HER5N1AL-MS      Matrix.....: WATER  
MS Lot-Sample #: A5G010263-006      HER5N1AM-MSD

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
2,4,6-Tribromophenol	67	(21 - 122)
	67	(21 - 122)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HEQ1L1AF-MS      Matrix.....: SO  
 MS Lot-Sample #: A5G010127-001      HEQ1L1AG-MSD  
 Date Sampled...: 06/30/05 10:42      Date Received...: 07/01/05  
 Prep Date.....: 07/02/05      Analysis Date...: 07/05/05  
 Prep Batch #...: 5183021  
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
1,2,4-Trichloro-benzene	58	(16 - 121)			SW846 8270C
	68	(16 - 121)	16	(0-54)	SW846 8270C
Acenaphthene	63	(13 - 133)			SW846 8270C
	73	(13 - 133)	15	(0-44)	SW846 8270C
2,4-Dinitrotoluene	76	(10 - 171)			SW846 8270C
	82	(10 - 171)	7.4	(0-45)	SW846 8270C
Pyrene	74	(10 - 218)			SW846 8270C
	80	(10 - 218)	7.6	(0-66)	SW846 8270C
N-Nitrosodi-n-propyl-amine	65	(12 - 128)			SW846 8270C
	75	(12 - 128)	14	(0-50)	SW846 8270C
1,4-Dichlorobenzene	65	(18 - 110)			SW846 8270C
	77	(18 - 110)	17	(0-59)	SW846 8270C
Pentachlorophenol	51	(10 - 144)			SW846 8270C
	54	(10 - 144)	5.5	(0-87)	SW846 8270C
Phenol	62	(10 - 148)			SW846 8270C
	72	(10 - 148)	15	(0-50)	SW846 8270C
2-Chlorophenol	59	(17 - 116)			SW846 8270C
	69	(17 - 116)	15	(0-54)	SW846 8270C
4-Chloro-3-methylphenol	67	(17 - 128)			SW846 8270C
	77	(17 - 128)	14	(0-55)	SW846 8270C
4-Nitrophenol	67	(10 - 148)			SW846 8270C
	76	(10 - 148)	13	(0-64)	SW846 8270C

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Nitrobenzene-d5	63	(42 - 110)
	74	(42 - 110)
2-Fluorobiphenyl	57	(43 - 110)
	67	(43 - 110)
Terphenyl-d14	79	(37 - 137)
	82	(37 - 137)
Phenol-d5	64	(25 - 115)
	72	(25 - 115)
2-Fluorophenol	61	(11 - 116)
	71	(11 - 116)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: A5G010127      Work Order #...: HEQ1L1AF-MS      Matrix.....: SO  
MS Lot-Sample #: A5G010127-001      HEQ1L1AG-MSD

<u>SURROGATE</u>	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
2,4,6-Tribromophenol	76	(35 - 116)
	81	(35 - 116)

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: WATER

Date Sampled...: 07/01/05 08:57 Date Received...: 07/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5G010199-001 Prep Batch #...: 5186018

Arsenic	86	(75 - 125)			SW846 6010B	07/05-07/08/05	HERM01A2
	92	(75 - 125)	6.8	(0-20)	SW846 6010B	07/05-07/08/05	HERM01A3

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: A5G010127

Matrix.....: SO

Date Sampled...: 06/30/05 10:42 Date Received...: 07/01/05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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MS Lot-Sample #: A5G010127-001 Prep Batch #...: 5186027

Arsenic	85	(75 - 125)			SW846 6010B	07/05-07/08/05	HEQ1L1AC
	81	(75 - 125)	4.4	(0-20)	SW846 6010B	07/05-07/09/05	HEQ1L1AD

Dilution Factor: 1

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.



SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A5G010127

Work Order #...: HERFV-SMP  
HERFV-DUP

Matrix.....: SOLID

Date Sampled...: 06/29/05 14:00 Date Received...: 07/01/05

% Moisture.....: 1.3

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u>	<u>UNITS</u>	<u>RPD</u>	<u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>PREP</u>
		<u>RESULT</u>					<u>ANALYSIS DATE</u>	<u>BATCH #</u>
Percent Solids	98.7	98.9	%	0.13	(0-20)	SD Lot-Sample #: A5G010170-031 MCAWW 160.3 MOD	07/01-07/05/05	5182322
Dilution Factor: 1								



**STL Cooler Receipt Form/Narrative**

Lot Number: ASB 010127

**North Canton Facility**

Client: CRA Project: Waukegan MGP C&E Quote#: \_\_\_\_\_  
 Cooler Received on: 7/1/05 Opened on: 7/1/05 Site by: Ann Maddipati  
 (Signature)

Fedx  Client Drop Off  UPS  DHL  FAS  Other: \_\_\_\_\_

STL Cooler No# \_\_\_\_\_ Foam Box  Client Cooler  Other \_\_\_\_\_

1. Were custody seals on the outside of the cooler? Yes  No  Intact? Yes  No  NA   
 If YES, Quantity \_\_\_\_\_  
 Were the custody seals signed and dated? Yes  No  NA
2. Shipper's packing slip attached to this form? Yes  No  NA
3. Did custody papers accompany the samples? Yes  No  Relinquished by client? Yes  No
4. Did you sign the custody papers in the appropriate place? Yes  No
5. Packing material used: Bubble Wrap  Foam  None  Other: \_\_\_\_\_
6. Cooler temperature upon receipt 20.6 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial  Coolant & Sample  Against Bottles  IR  ICE/H<sub>2</sub>O Slurry   
 COOLANT: Wet Ice  Blue Ice  Dry Ice  Water  None

7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes  No
9. Were samples at the correct pH? (record below/on back) Yes  No  NA
10. Were correct bottles used for the tests indicated? Yes  No
11. Were air bubbles >6 mm in any VOA vials? Yes  No  NA
12. Sufficient quantity received to perform indicated analyses? Yes  No

Contacted PM ALM Date: 7/1 by: OM via Voice Mail  Verbal  Other

Concerning: High Temp

**1. CHAIN OF CUSTODY**  
 The following discrepancies occurred:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**2. SAMPLE CONDITION**  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.

**3. SAMPLE PRESERVATION**  
 Sample(s) \_\_\_\_\_ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot # 051105-HNO<sub>3</sub>; Sulfuric Acid Lot # 102804-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot # -041305 -NaOH; Hydrochloric Acid Lot # 100504-HCl; Sodium Hydroxide and Zinc Acetate Lot # 071604-CH<sub>3</sub>COO<sub>2</sub>ZN/NaOH  
 Sample(s) \_\_\_\_\_ were received with bubble > 6 mm in diameter (cc: PM)

**4. Other (see below or back)**  
 \_\_\_\_\_  
 \_\_\_\_\_

Client ID	pH	Date	Initials
<u>W-063005-PP-517</u>	<u>6.2</u>	<u>7/1/05</u>	<u>AM</u>



***END OF REPORT***